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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Confirmation No. 2601

Mitsuaki OSHIMA et al.

Docket No. 2000_1326

Serial No. 09/669,916

Group Art Unit 2634

Filed September 25, 2000

Examiner A. Le

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Sir:

As required by the Examiner in the Office Action mailed August 28, 2002, 178 sheets of formal (8½ x 11) drawings (Figs. 1-179) are submitted herewith.

Respectfully submitted,

Mitsuaki OSHIMA et al.

By:

Jeffrey R. Filipak
Jeffrey R. Filipak
Registration No. 41,471
Attorney for Patentees

JRF/fs

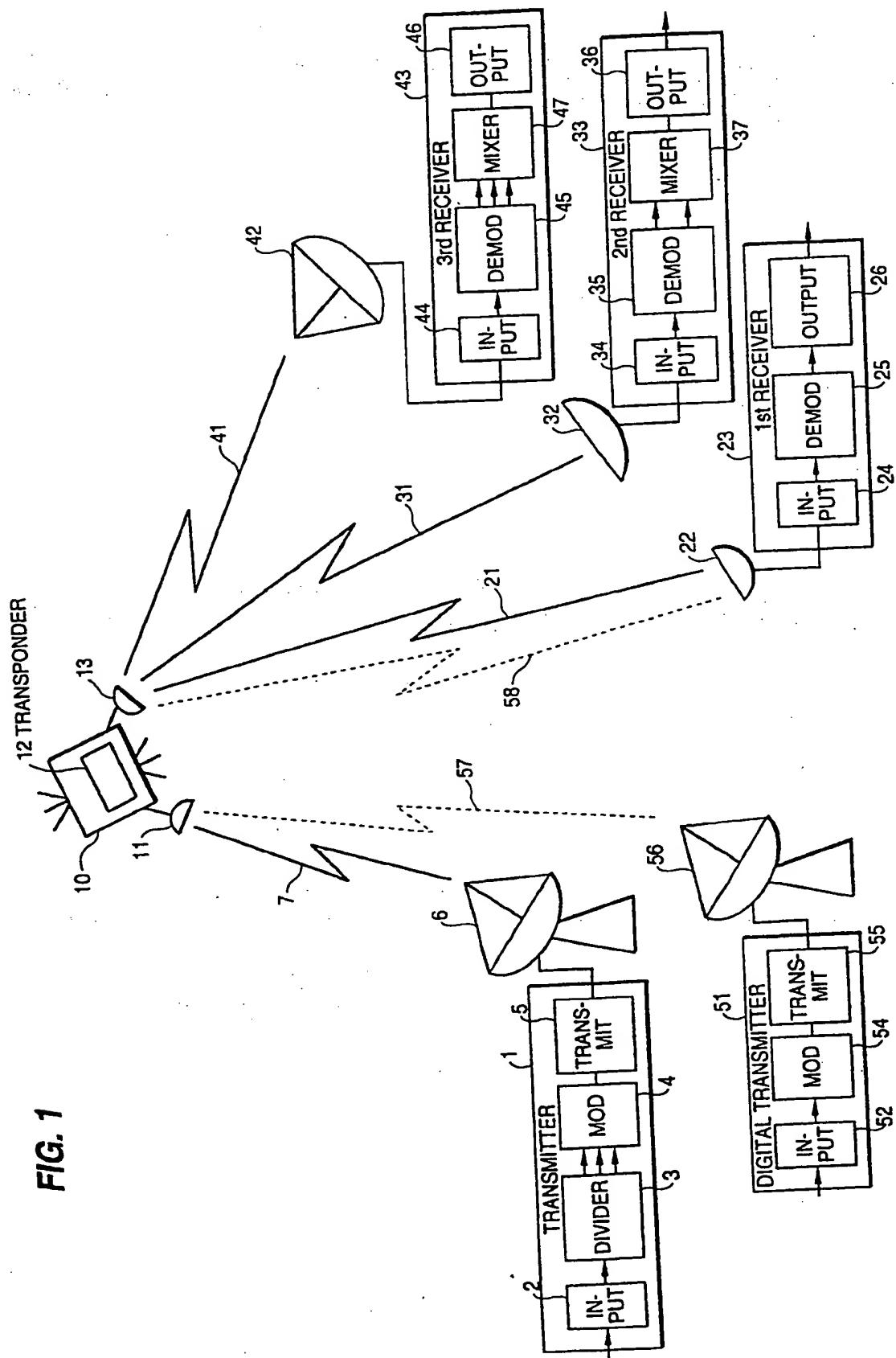
Washington, D.C. 20006-1021
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Facsimile (202) 721-8250
February 28, 2003

U.S. Patent

Feb. 4, 1997

Sheet 1 of 178

5,600,672



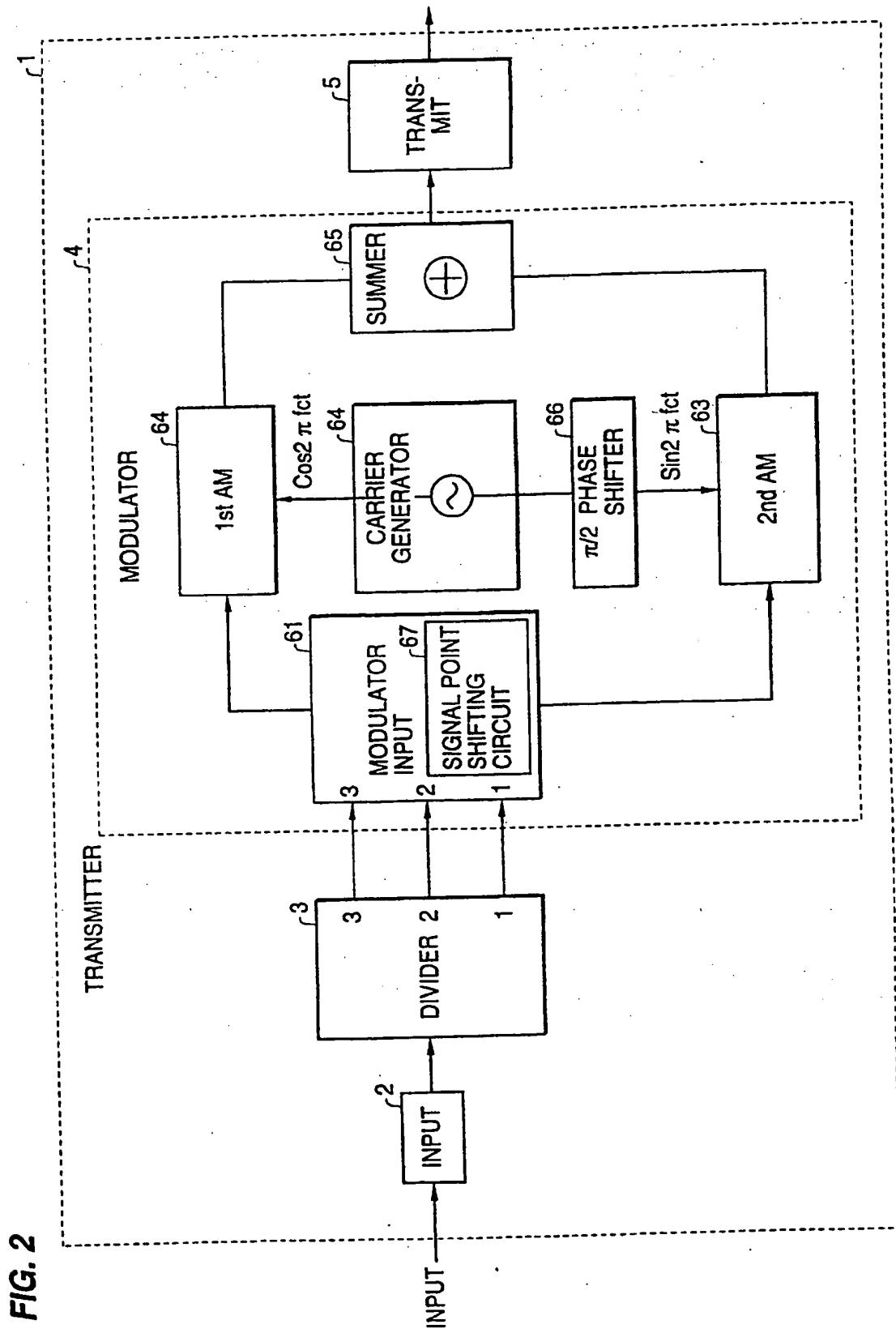


FIG. 3

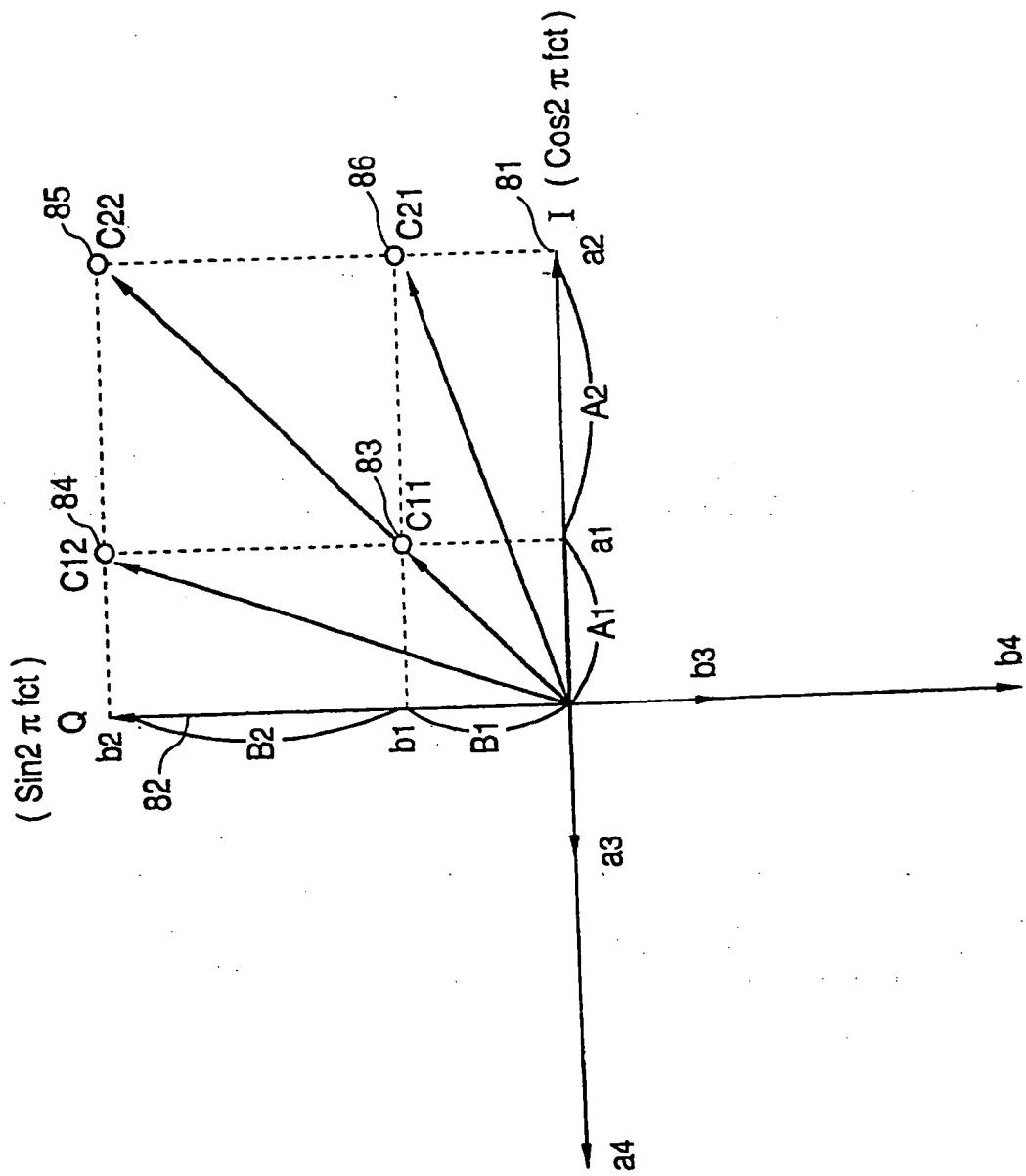


FIG. 4

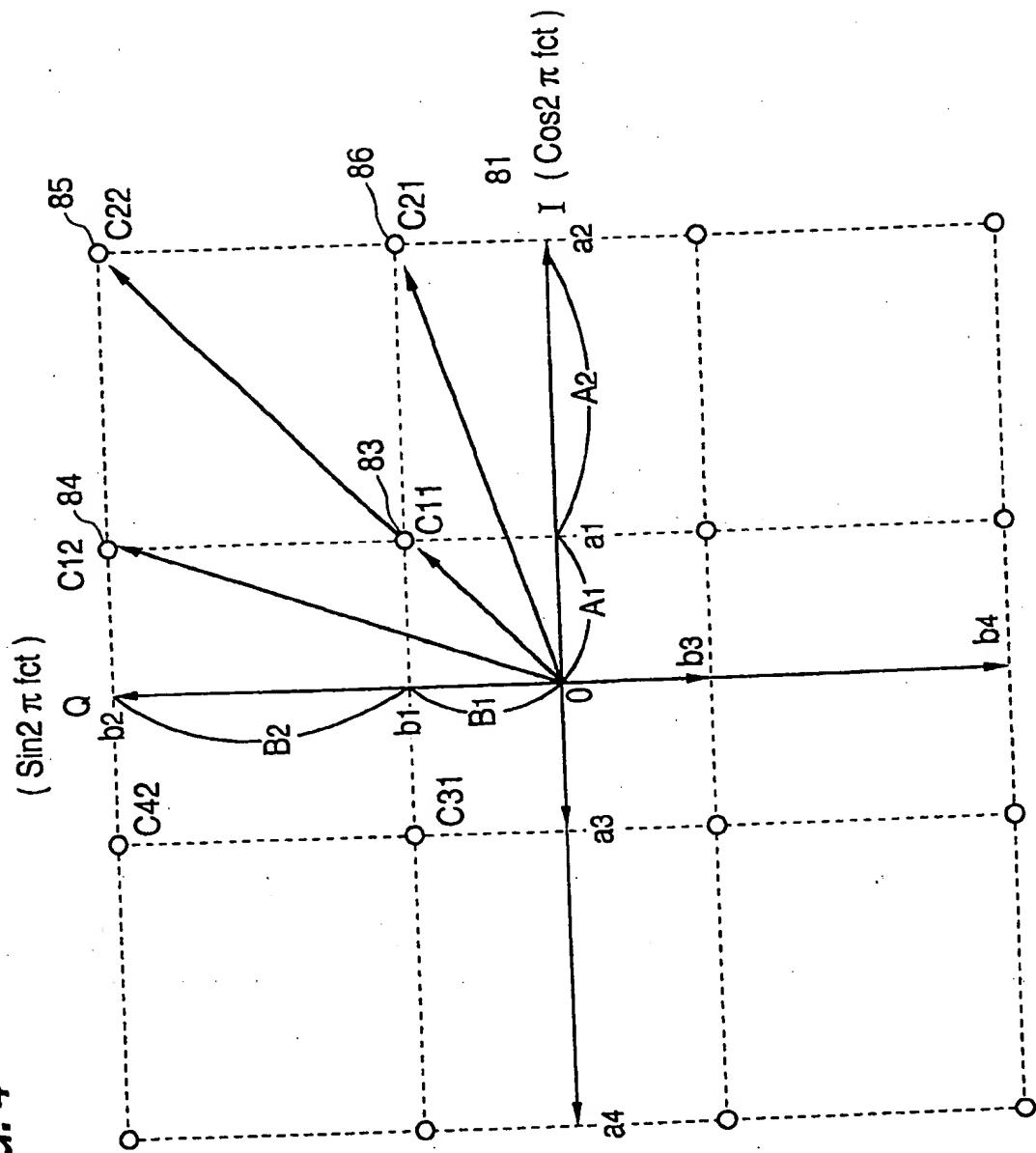


FIG. 5

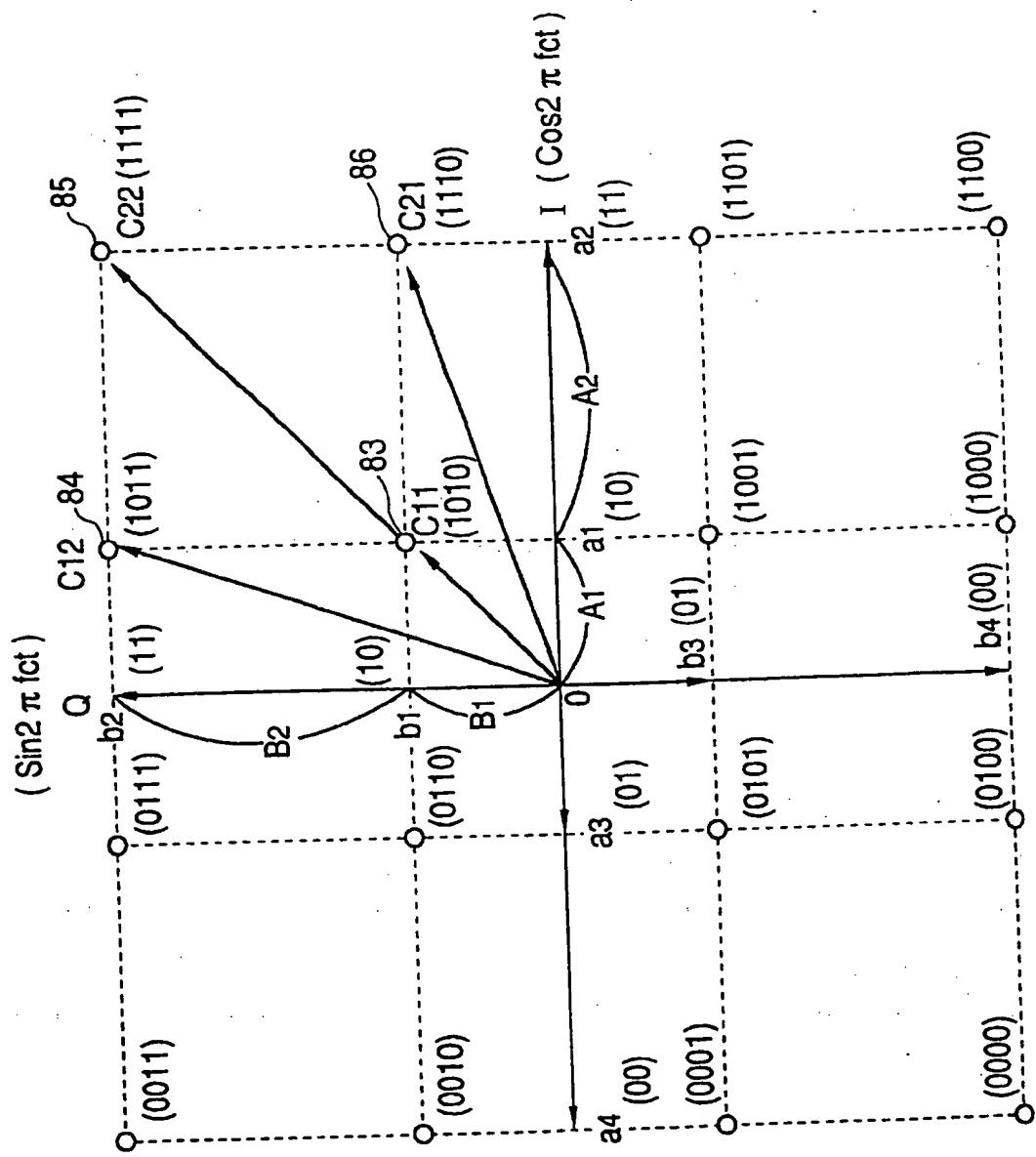


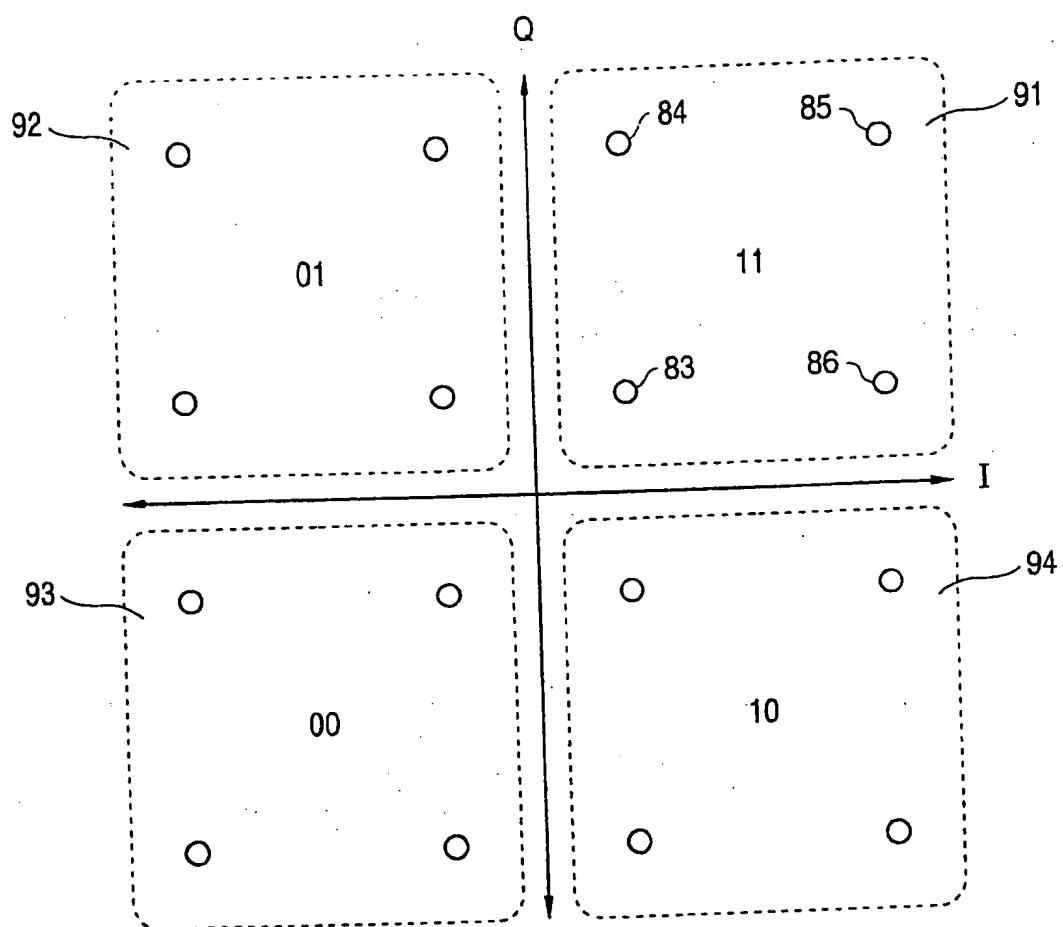
FIG. 6

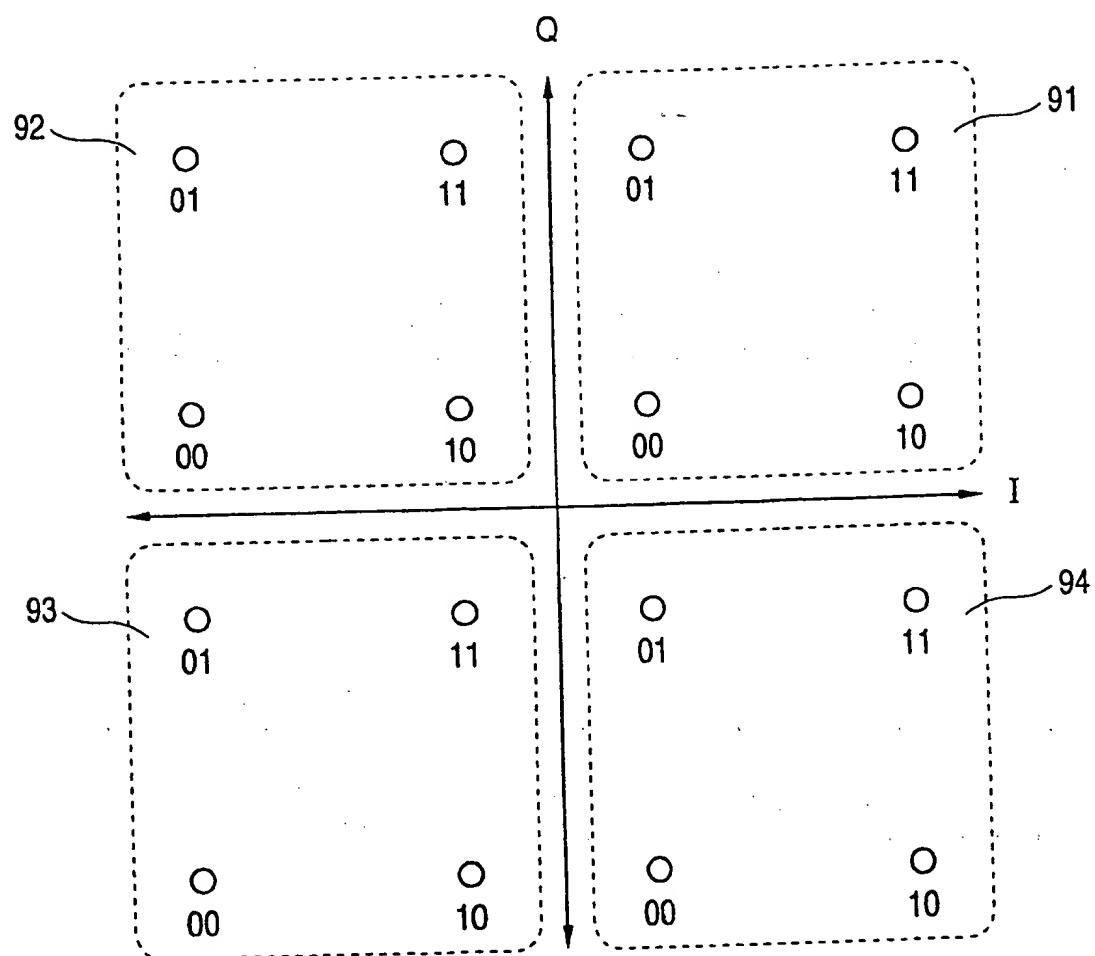
FIG. 7

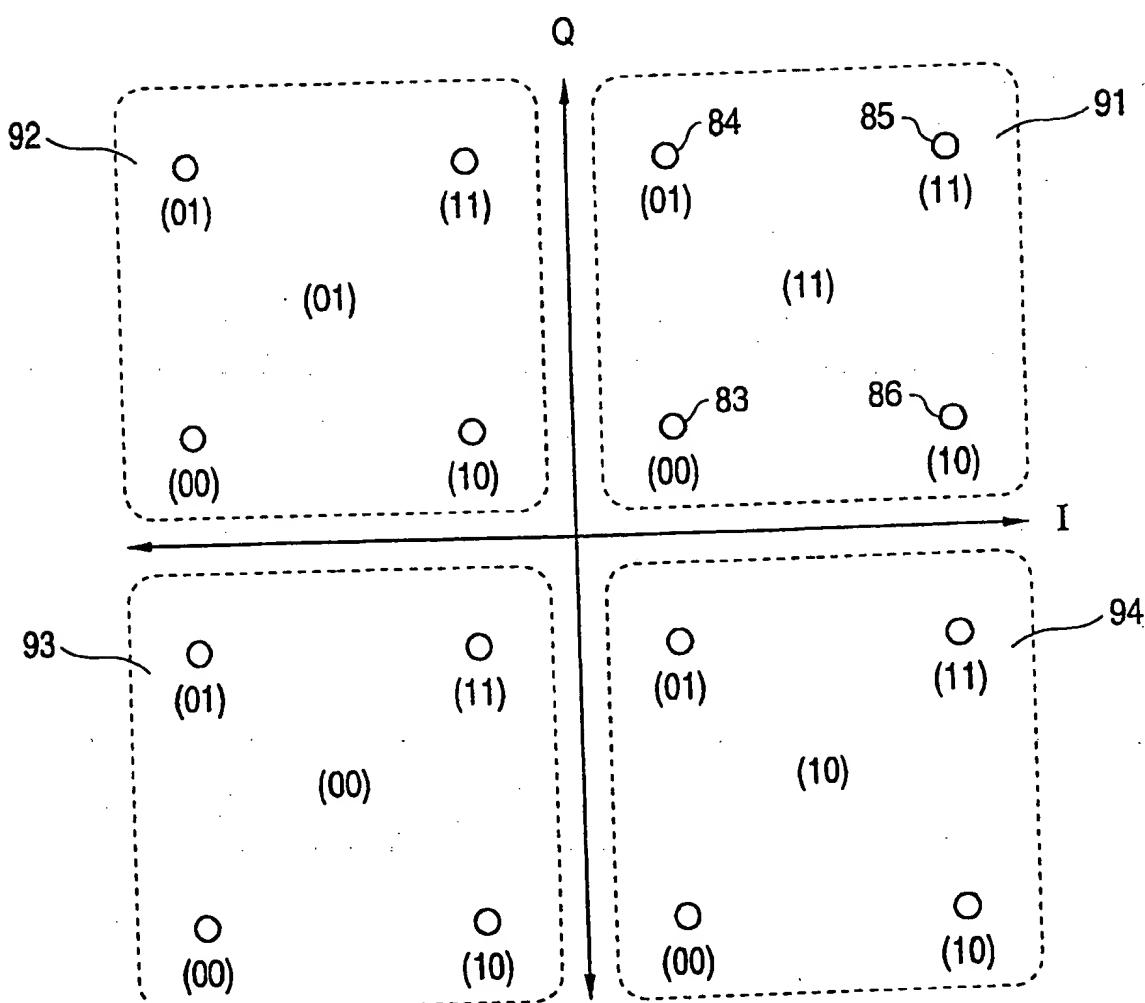
FIG. 8

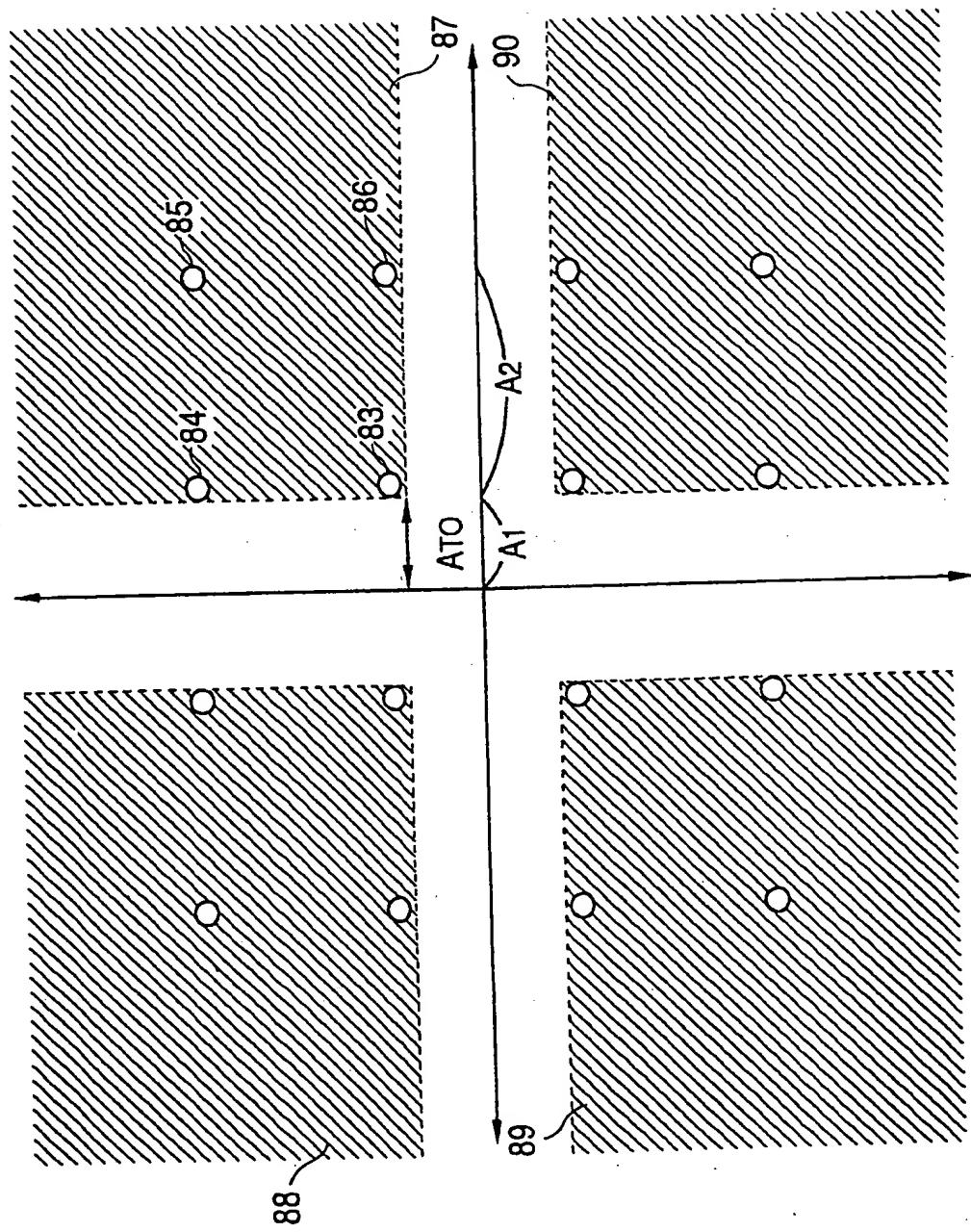
FIG. 9

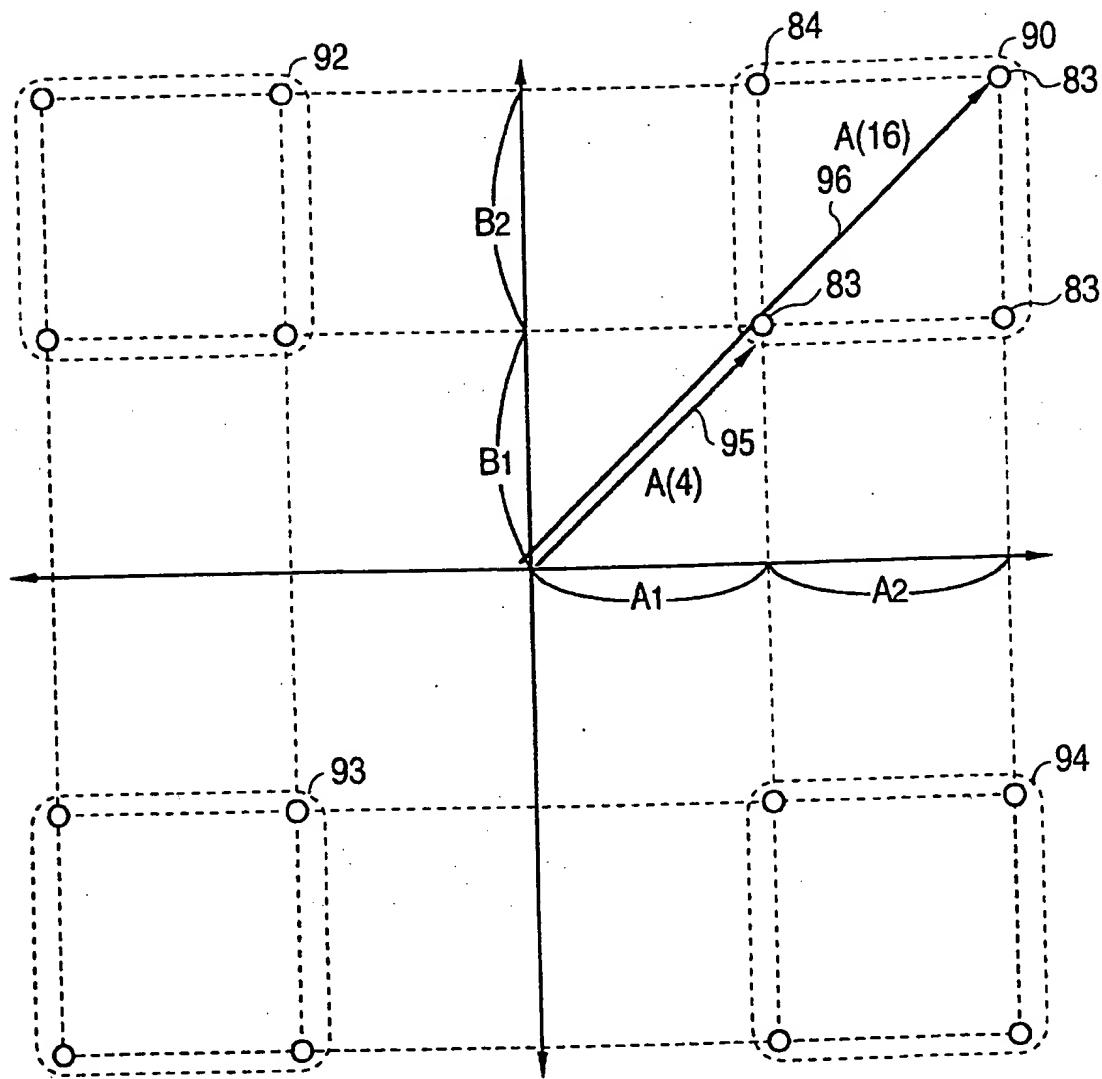
FIG. 10

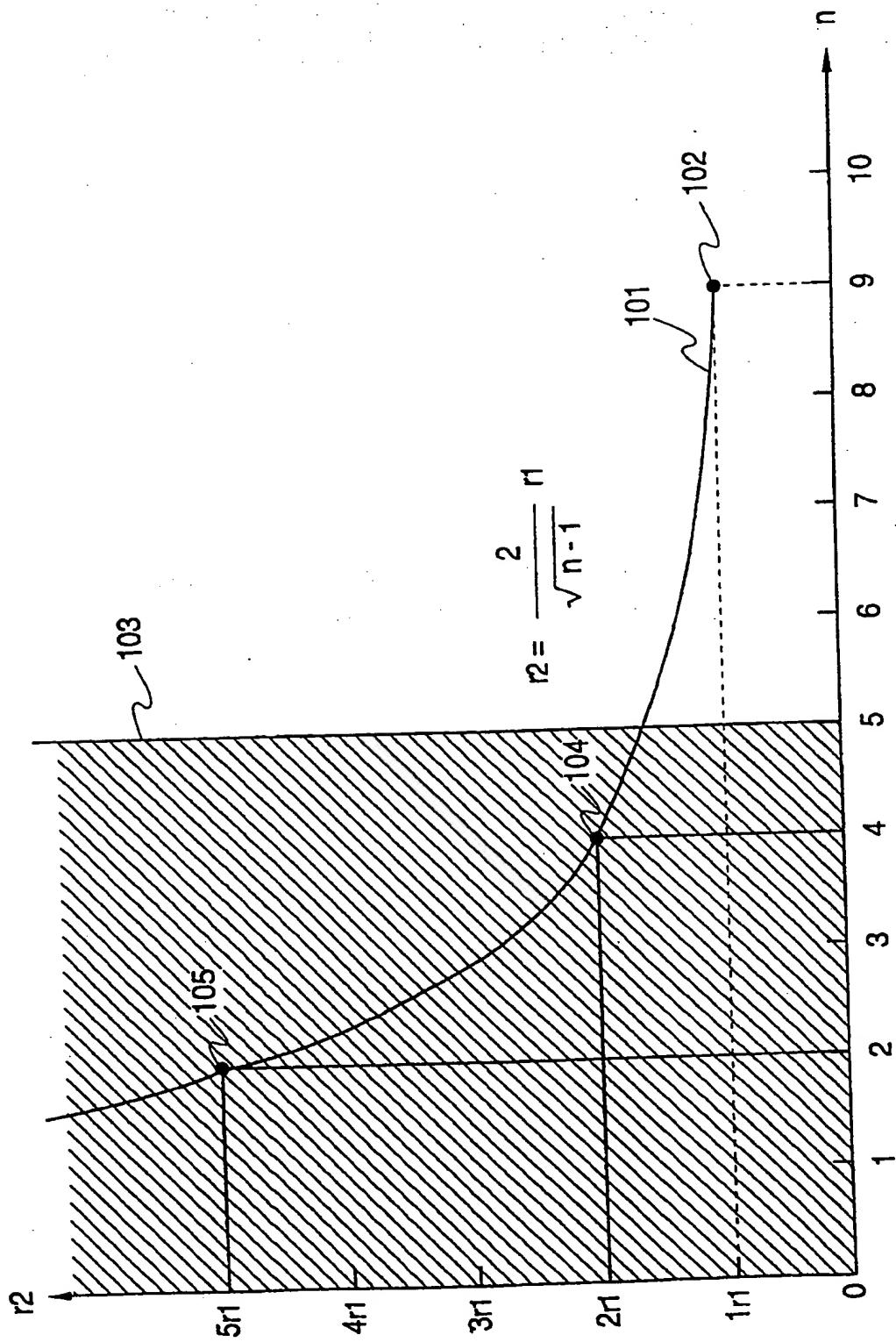
FIG. 11

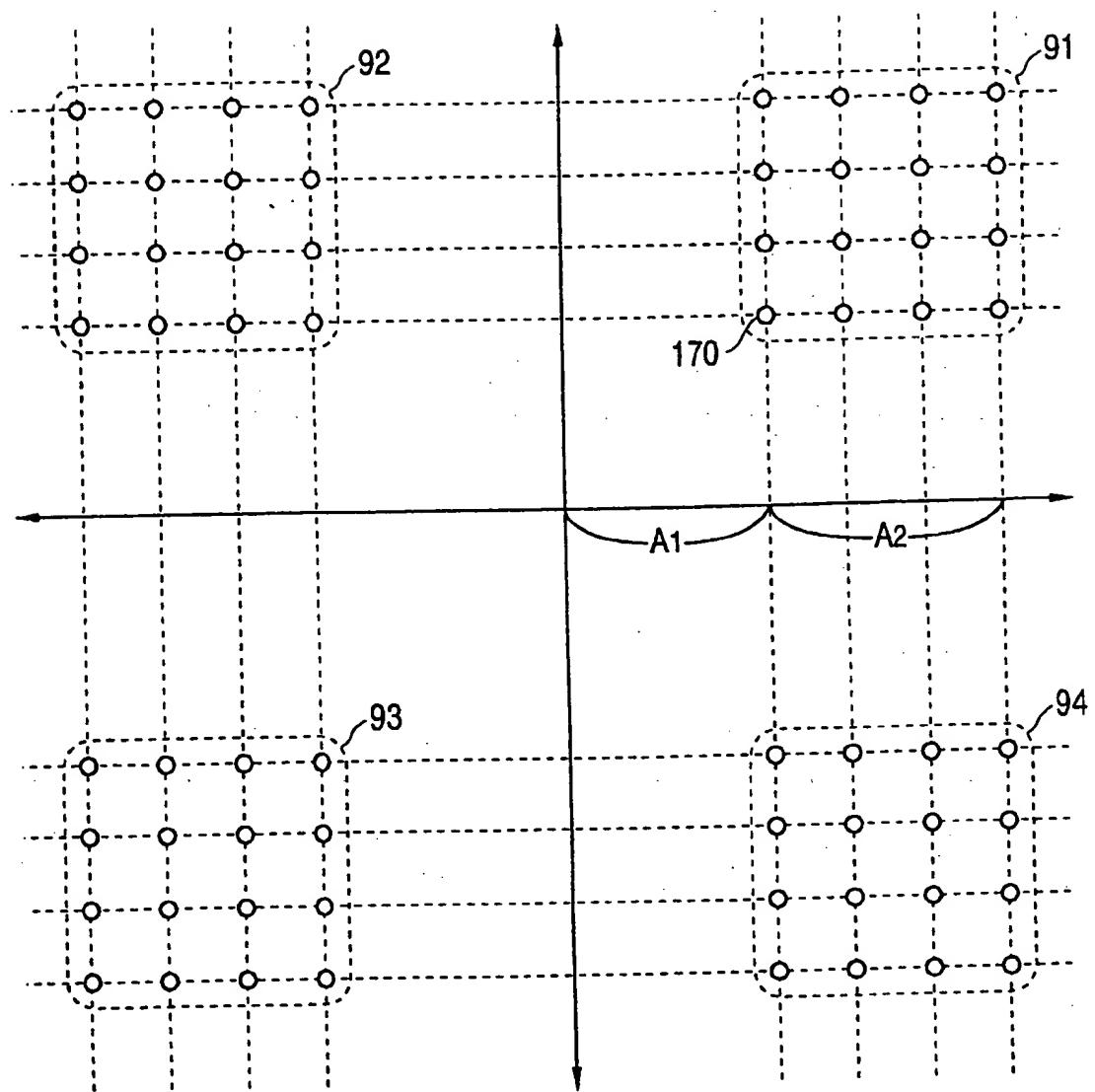
FIG. 12

FIG. 13

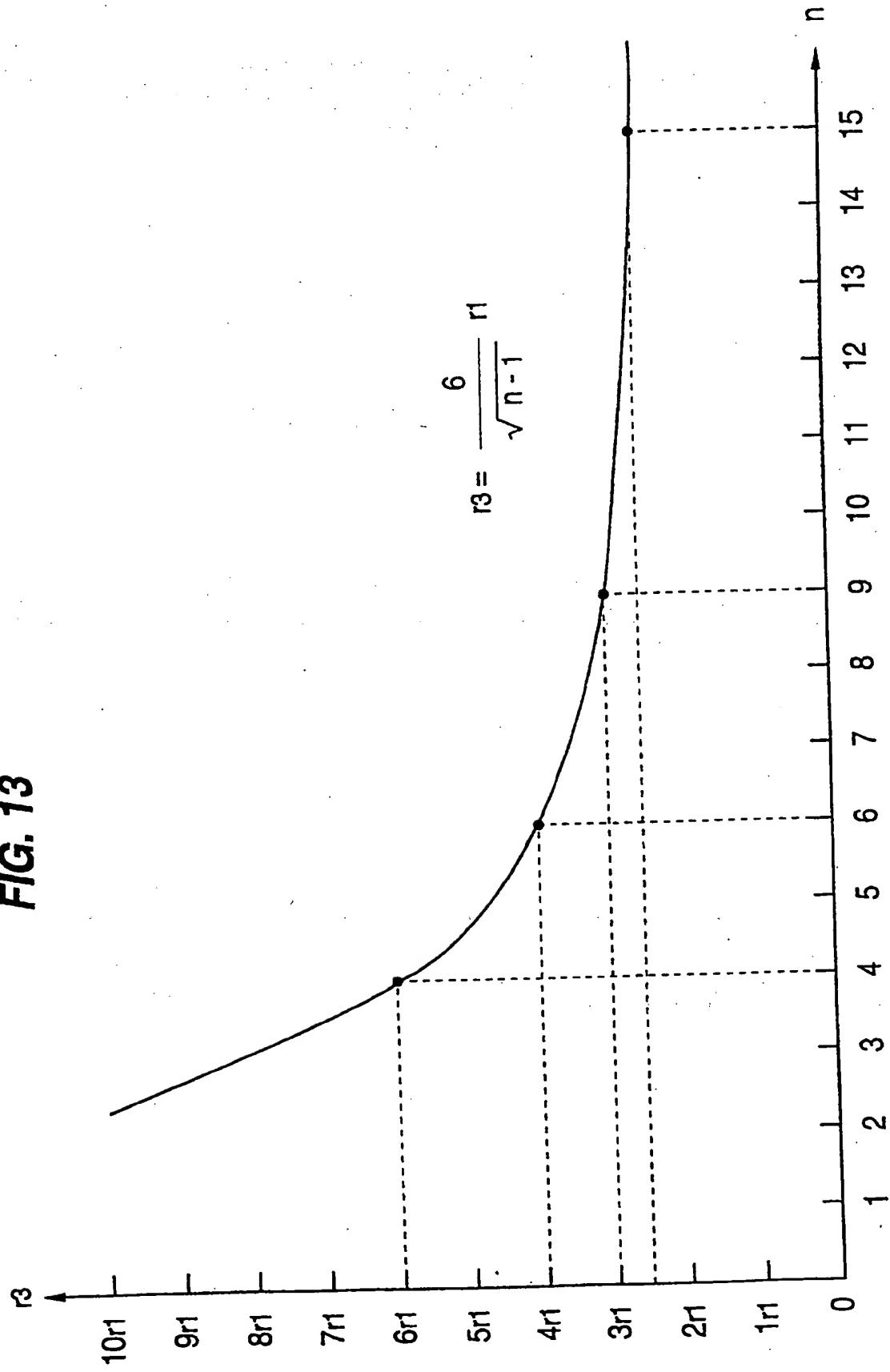


FIG. 14

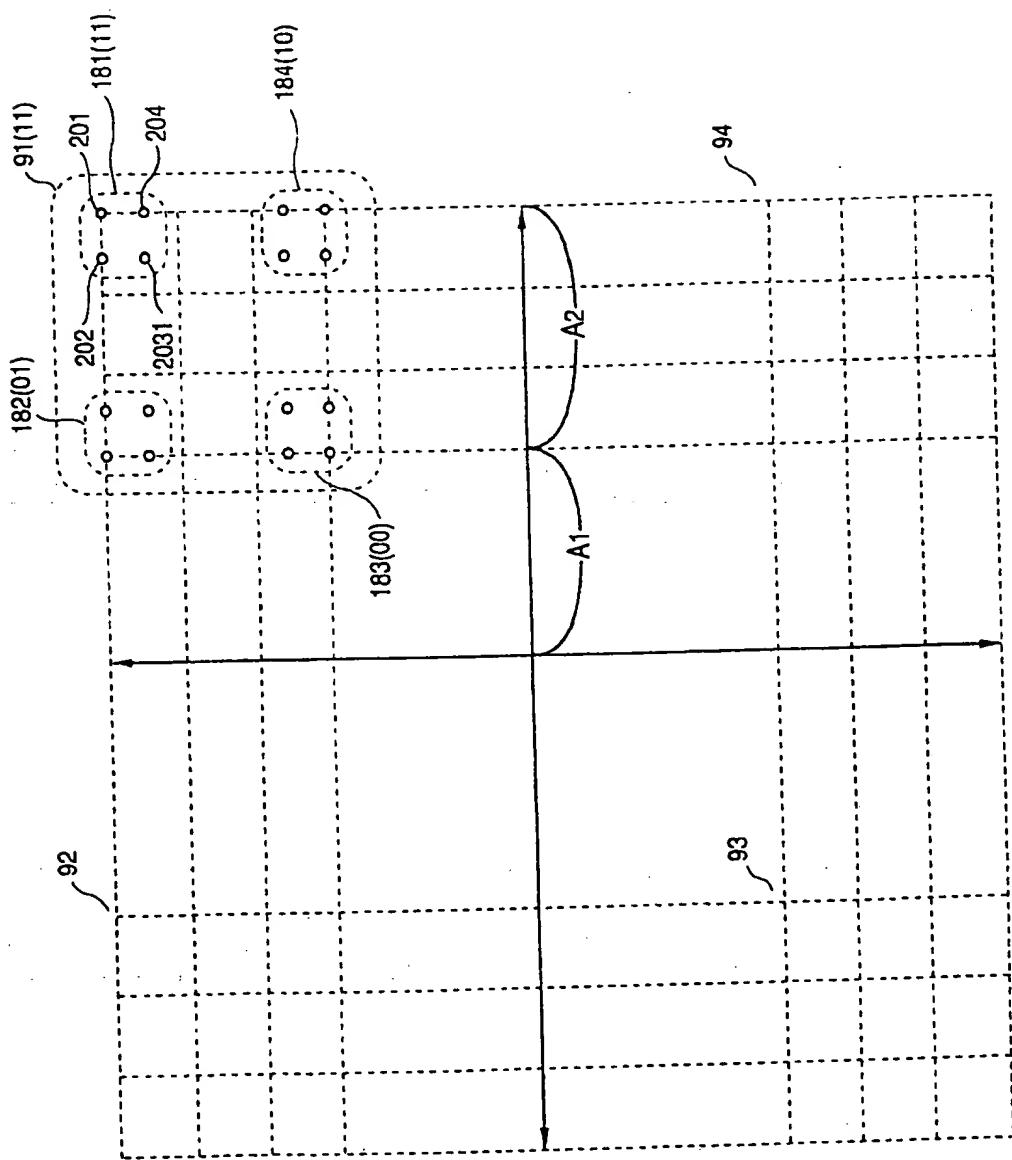


FIG. 15

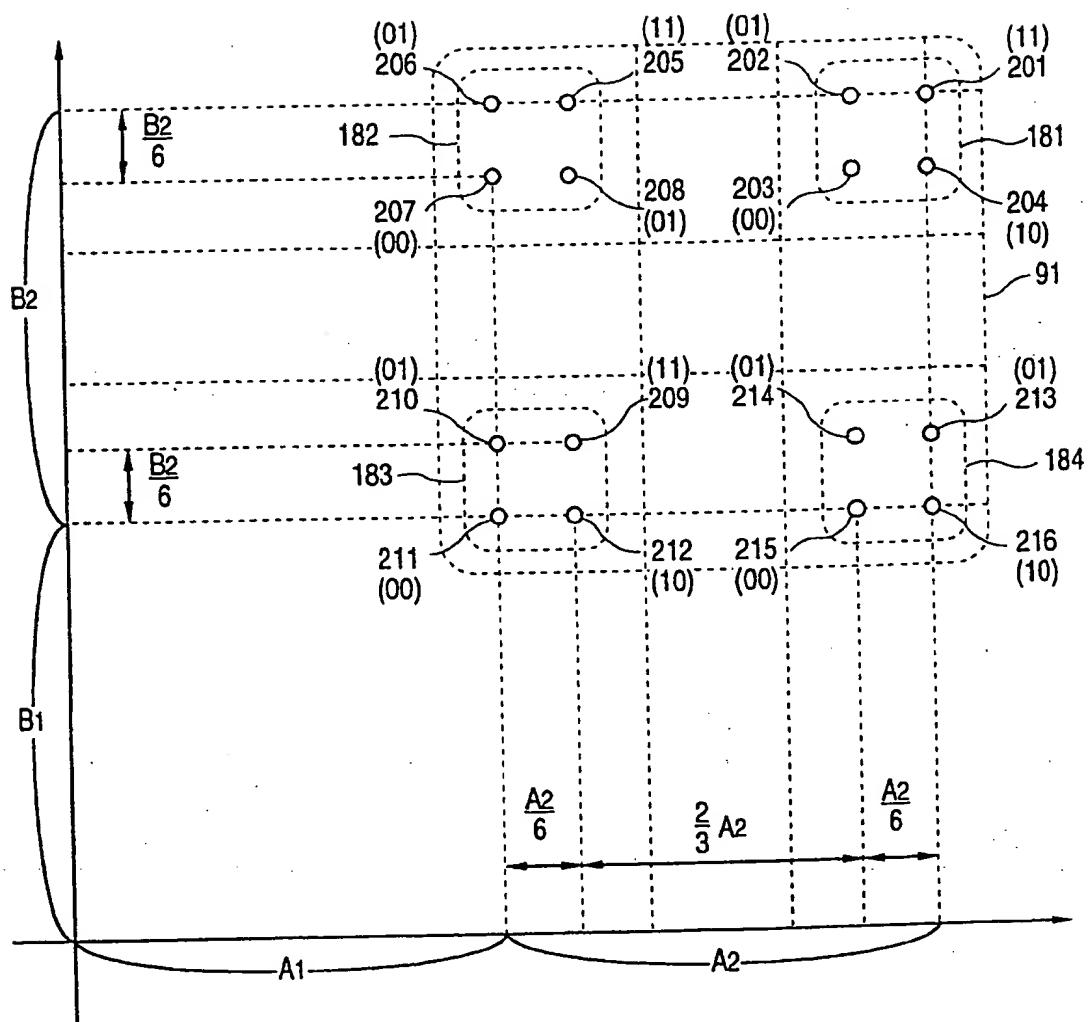
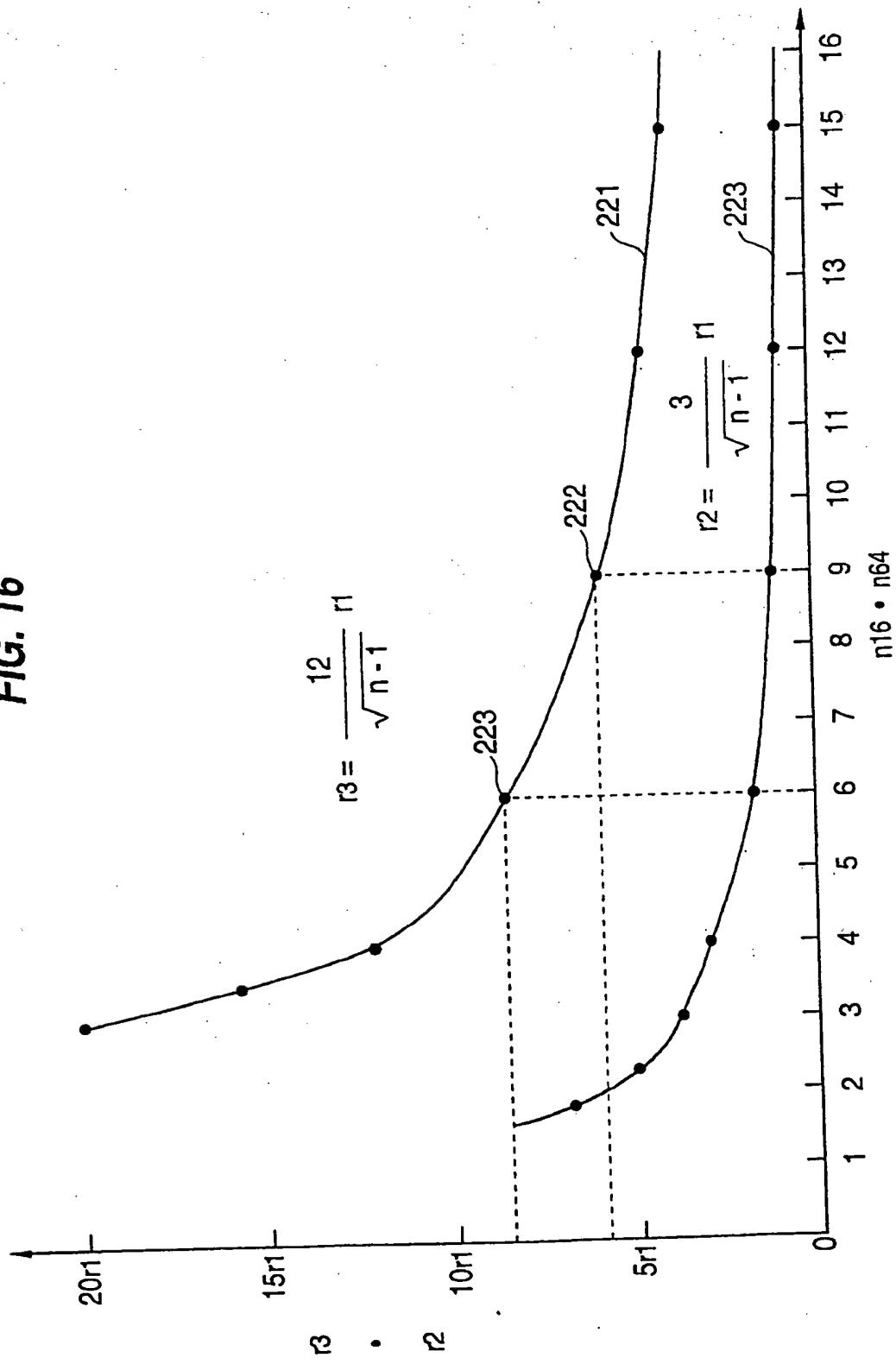


FIG. 16



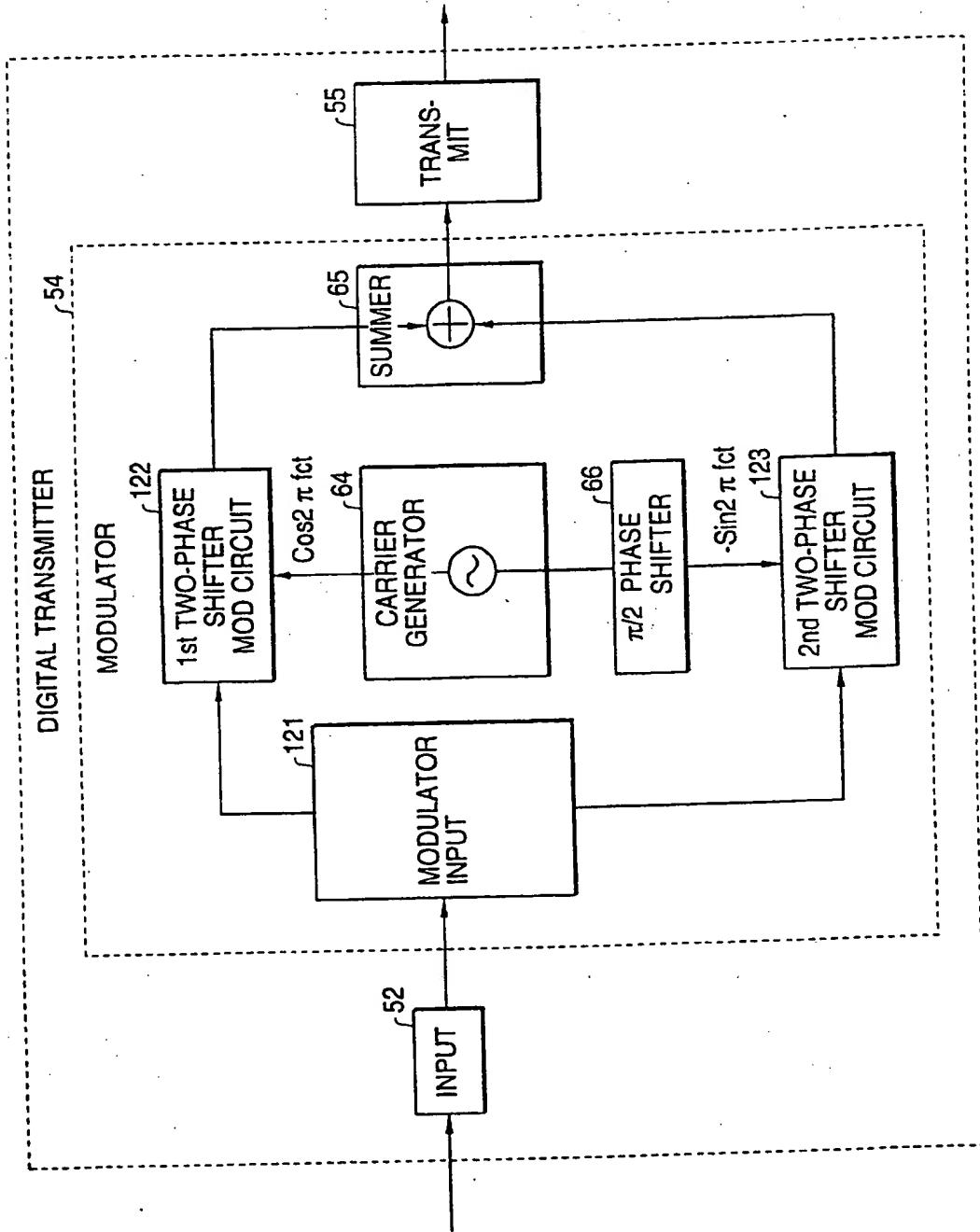


FIG. 17

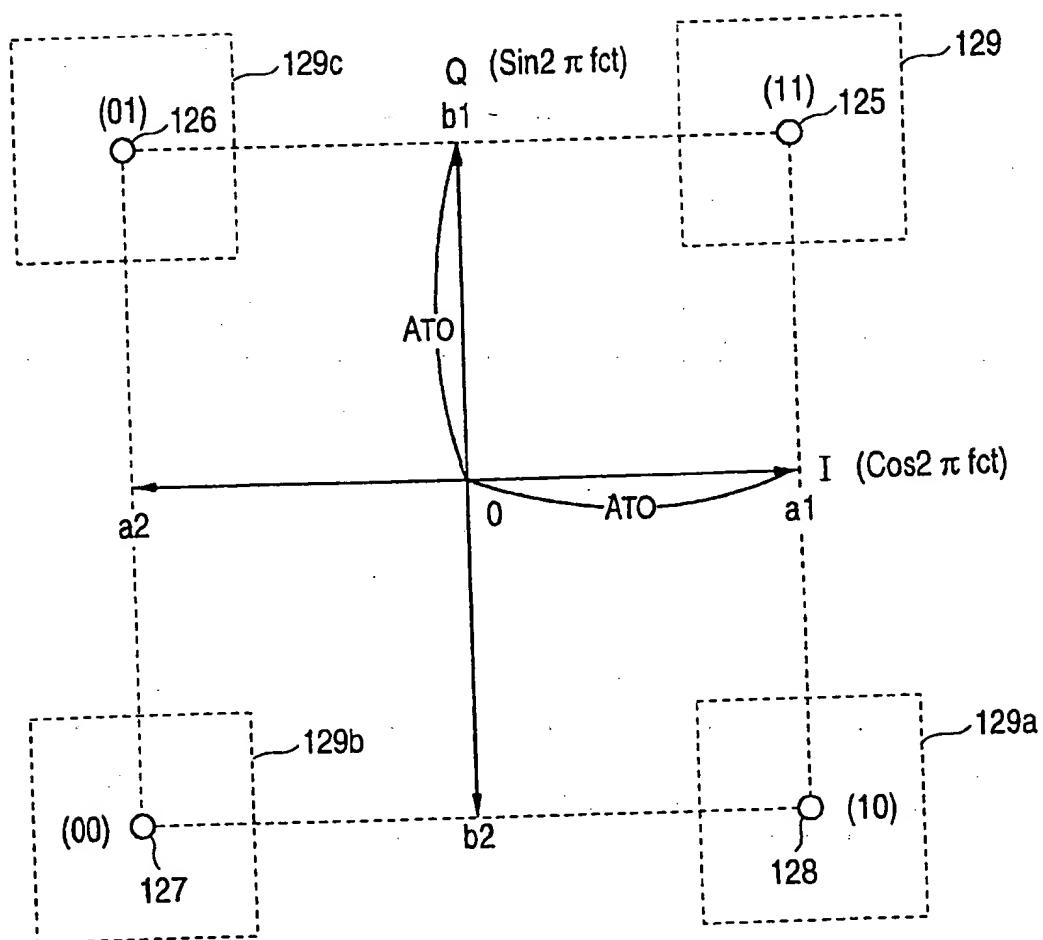
FIG. 18

FIG. 19

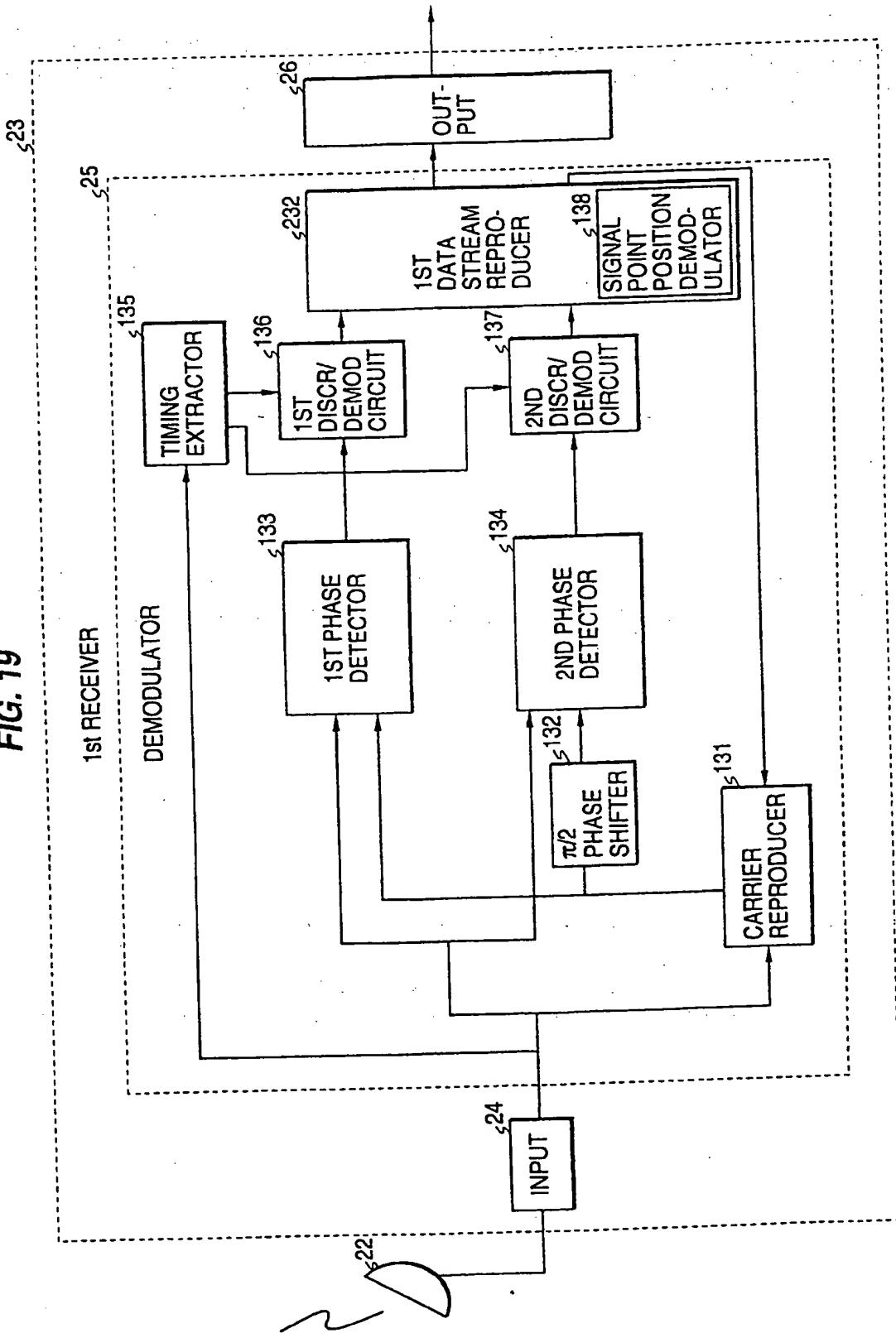
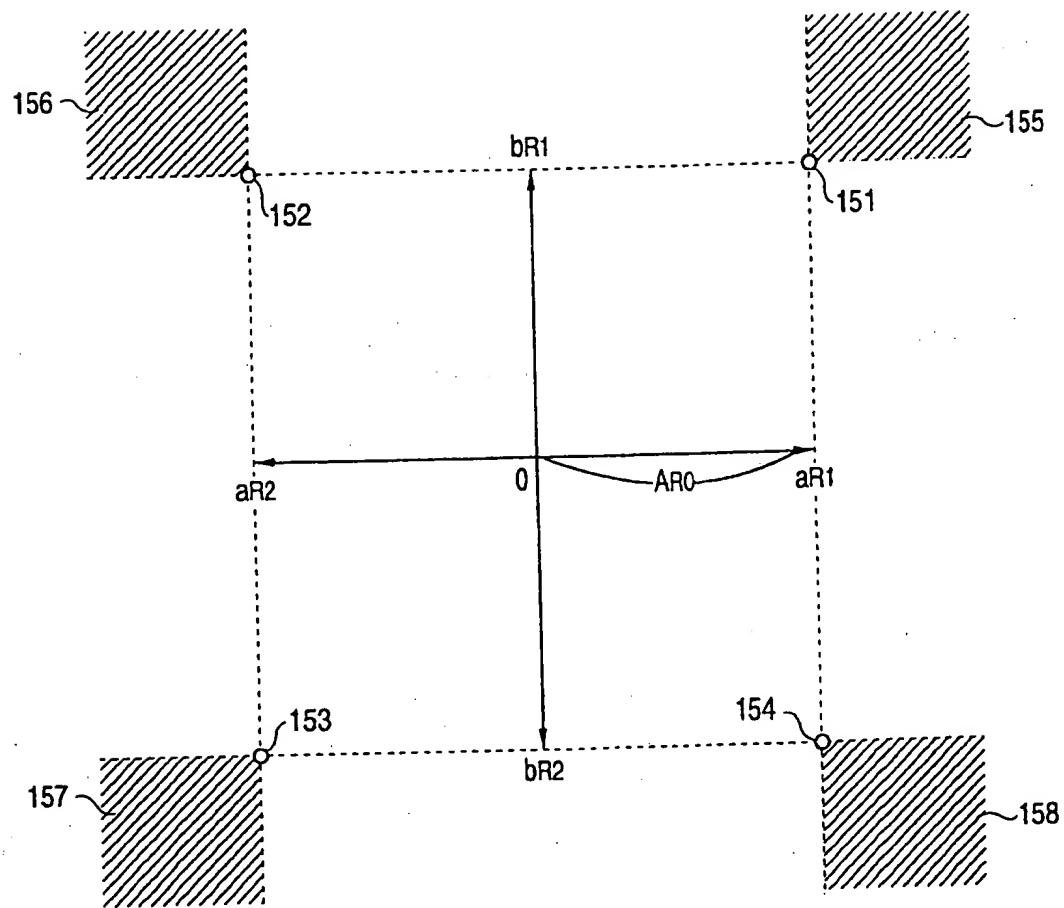


FIG. 20

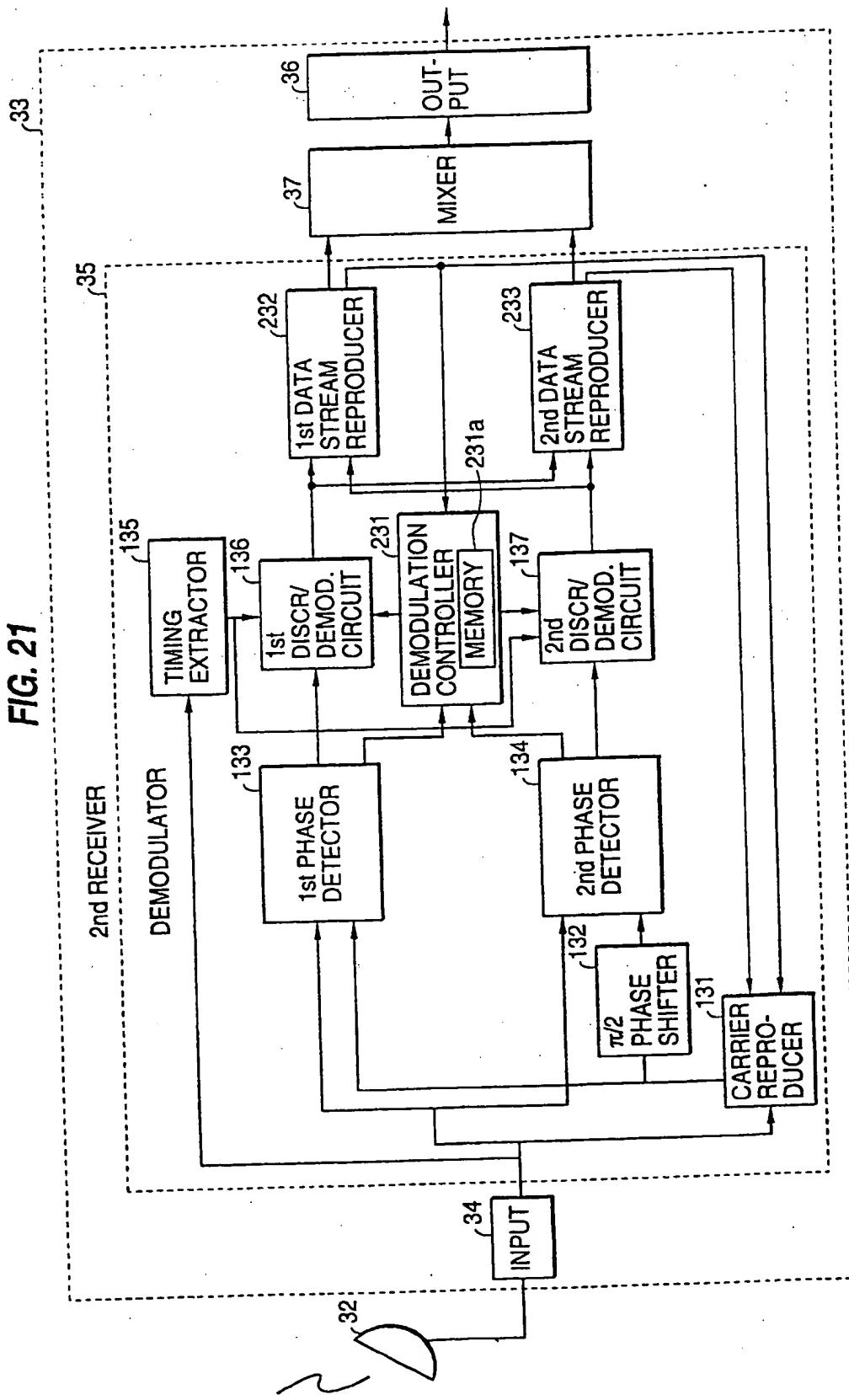


FIG. 22

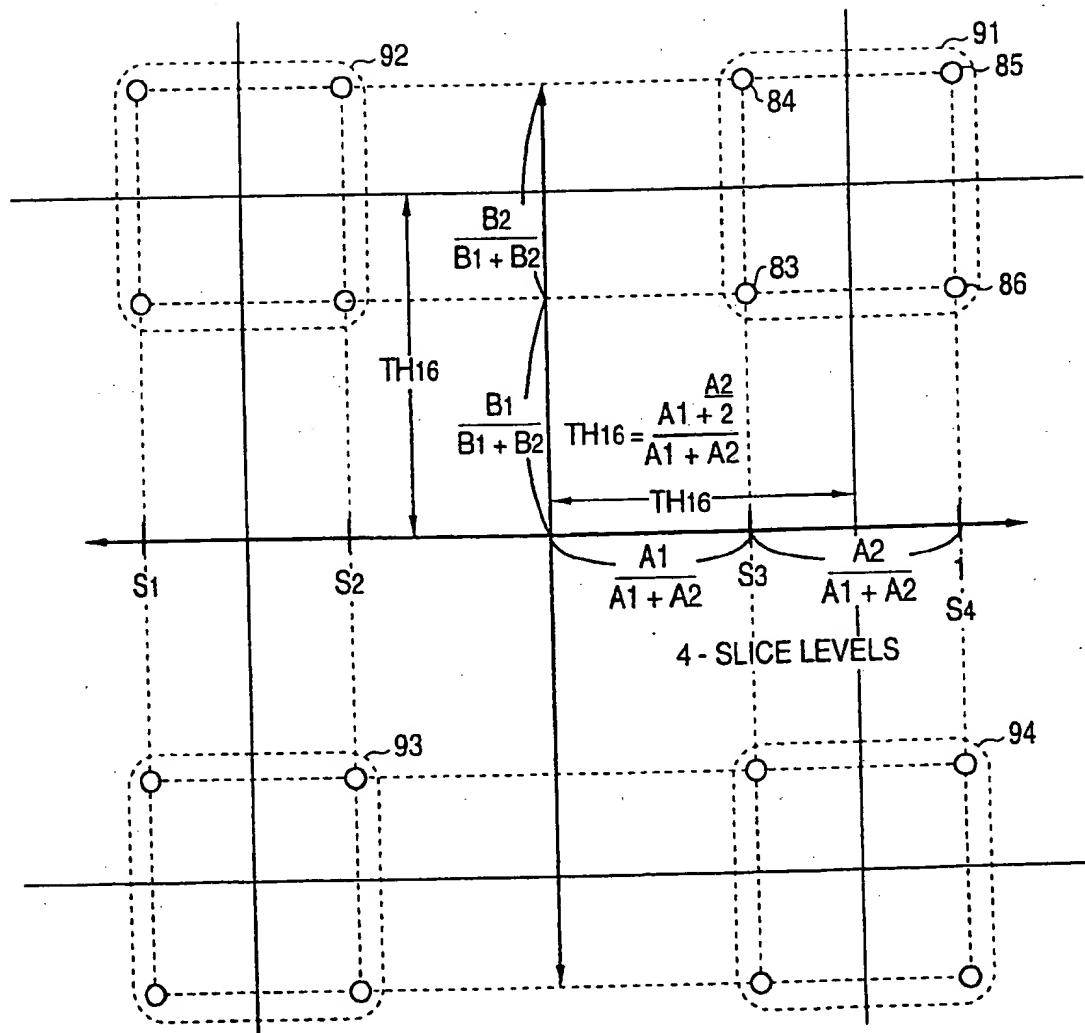


FIG. 23

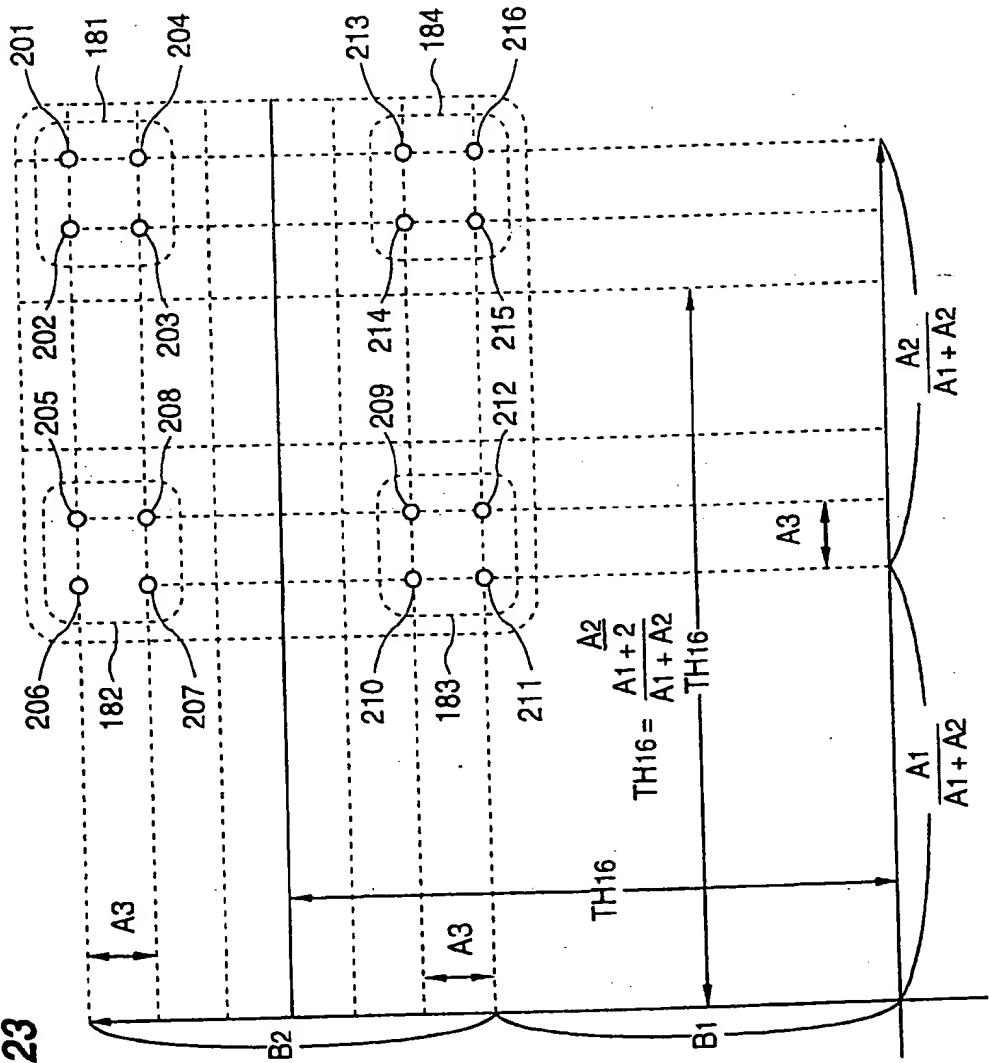


FIG. 24

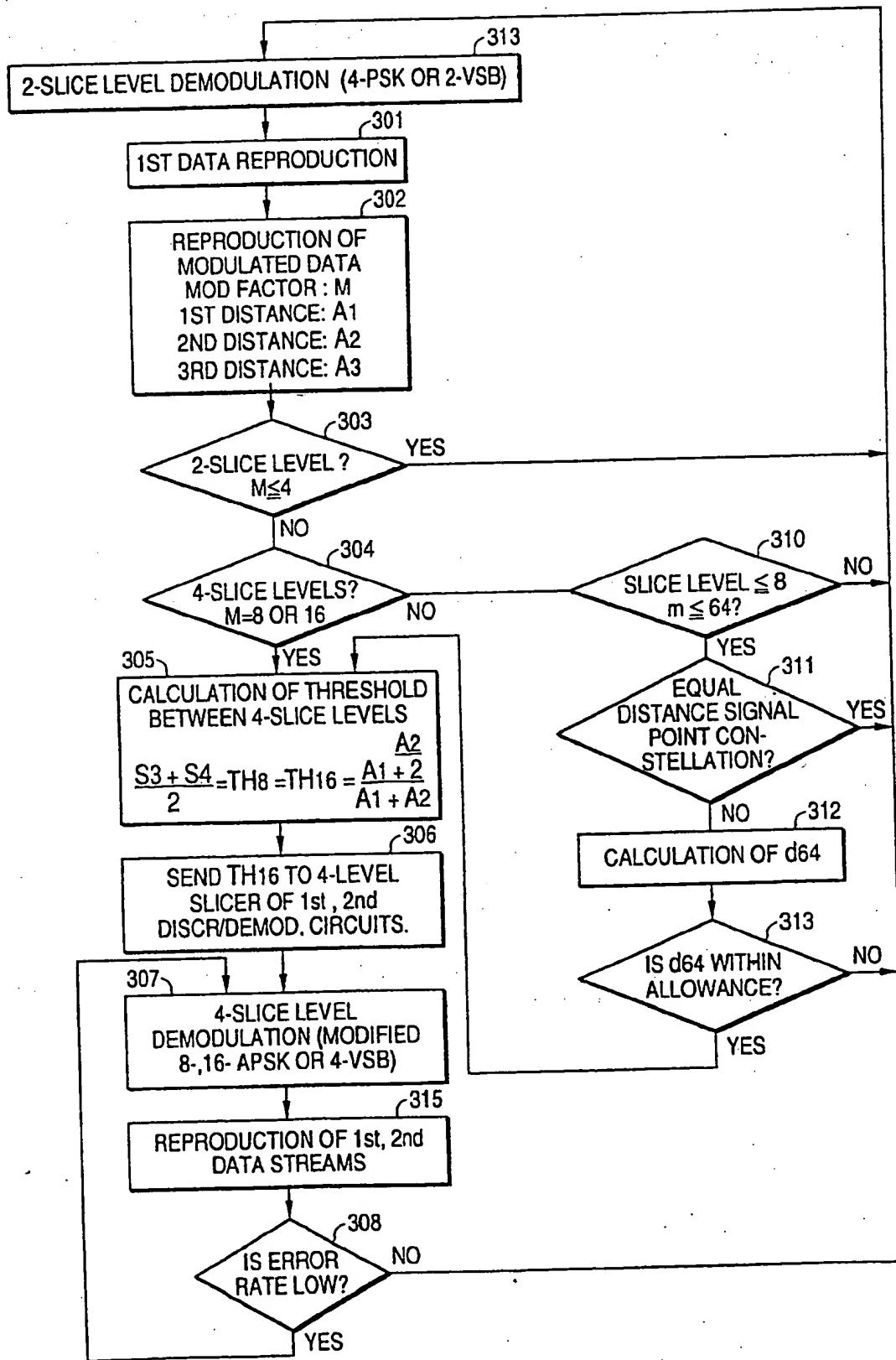


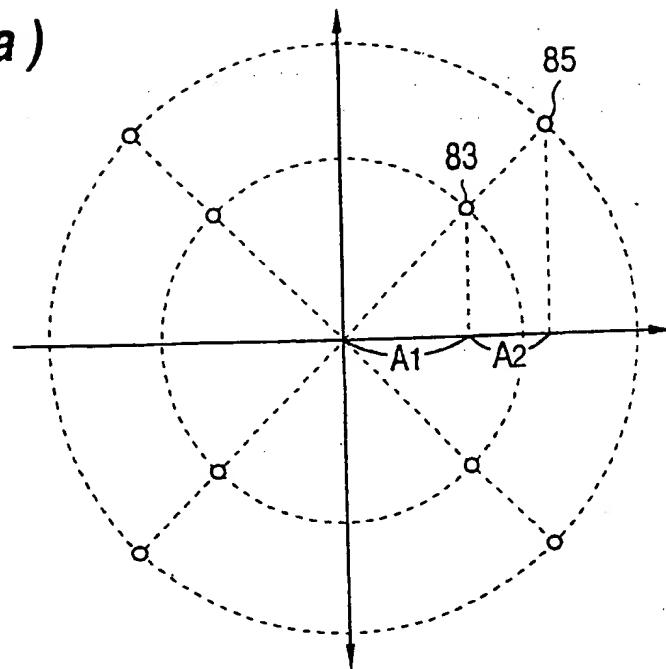
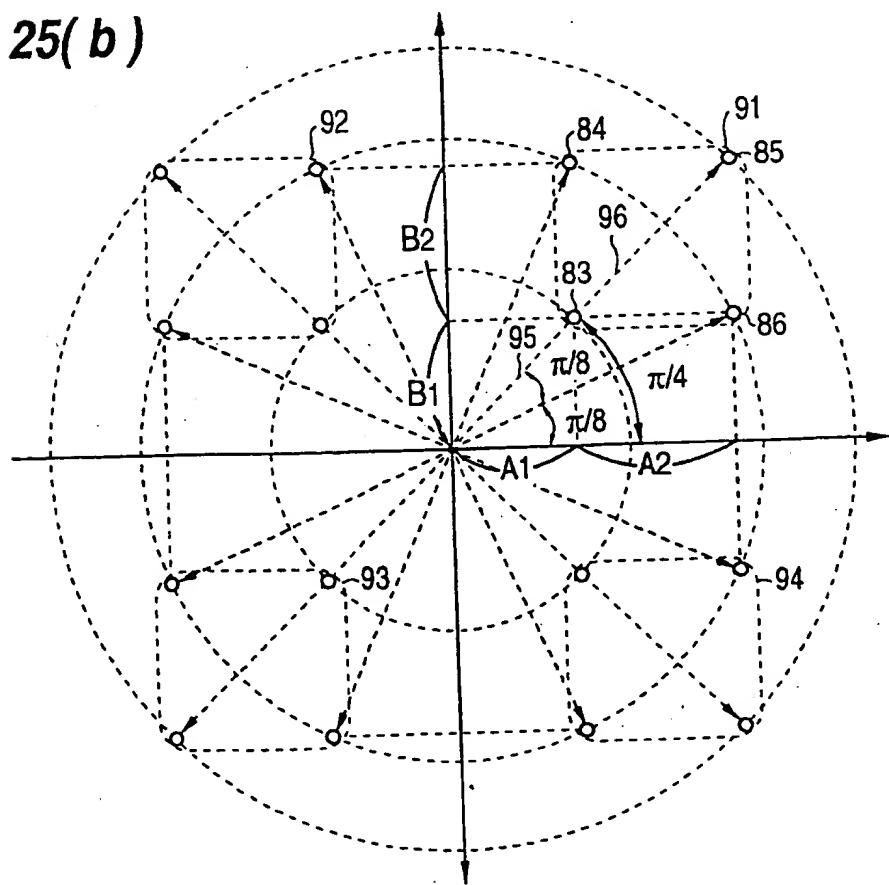
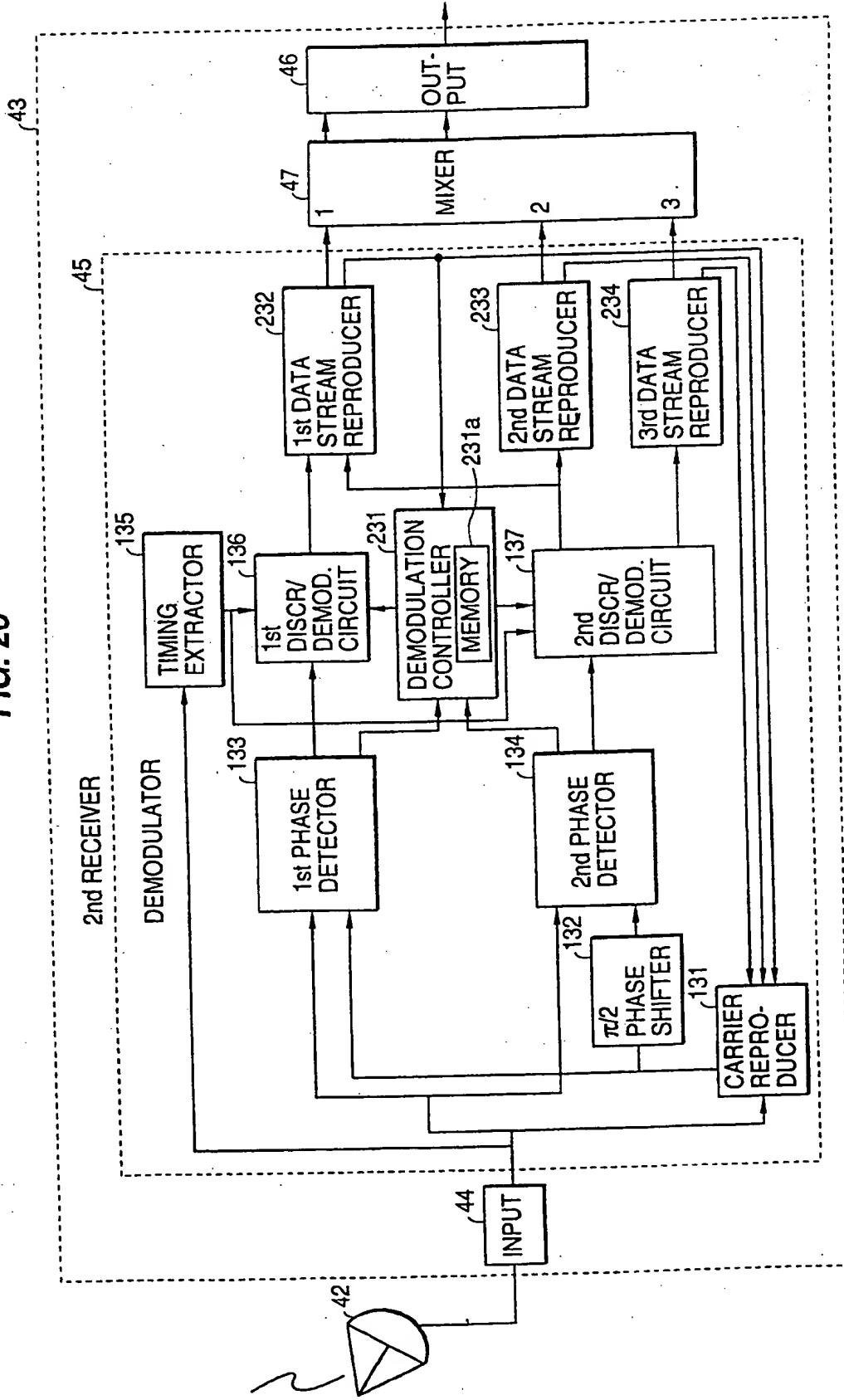
FIG. 25(a)**FIG. 25(b)**

FIG. 26



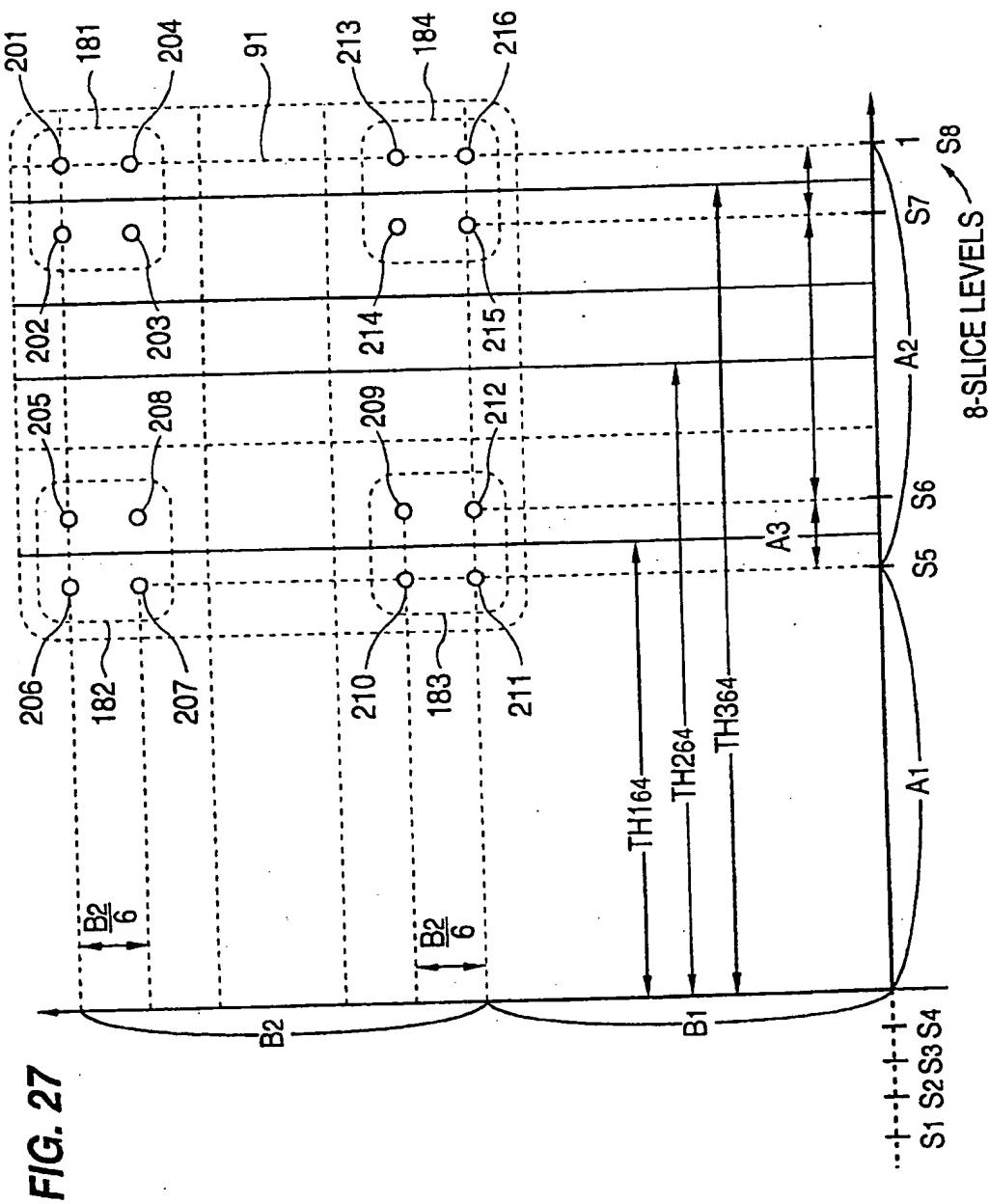
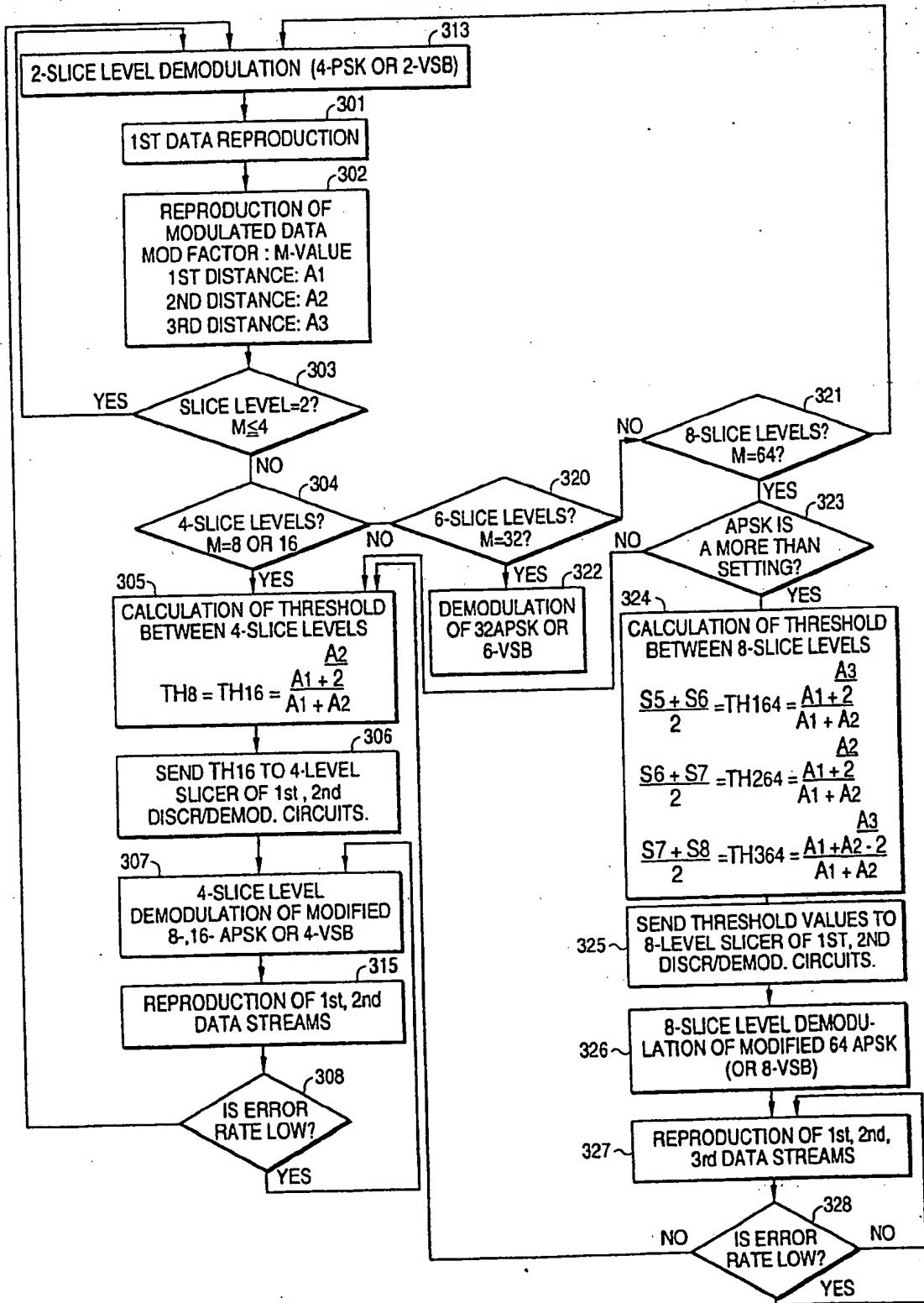


FIG. 28



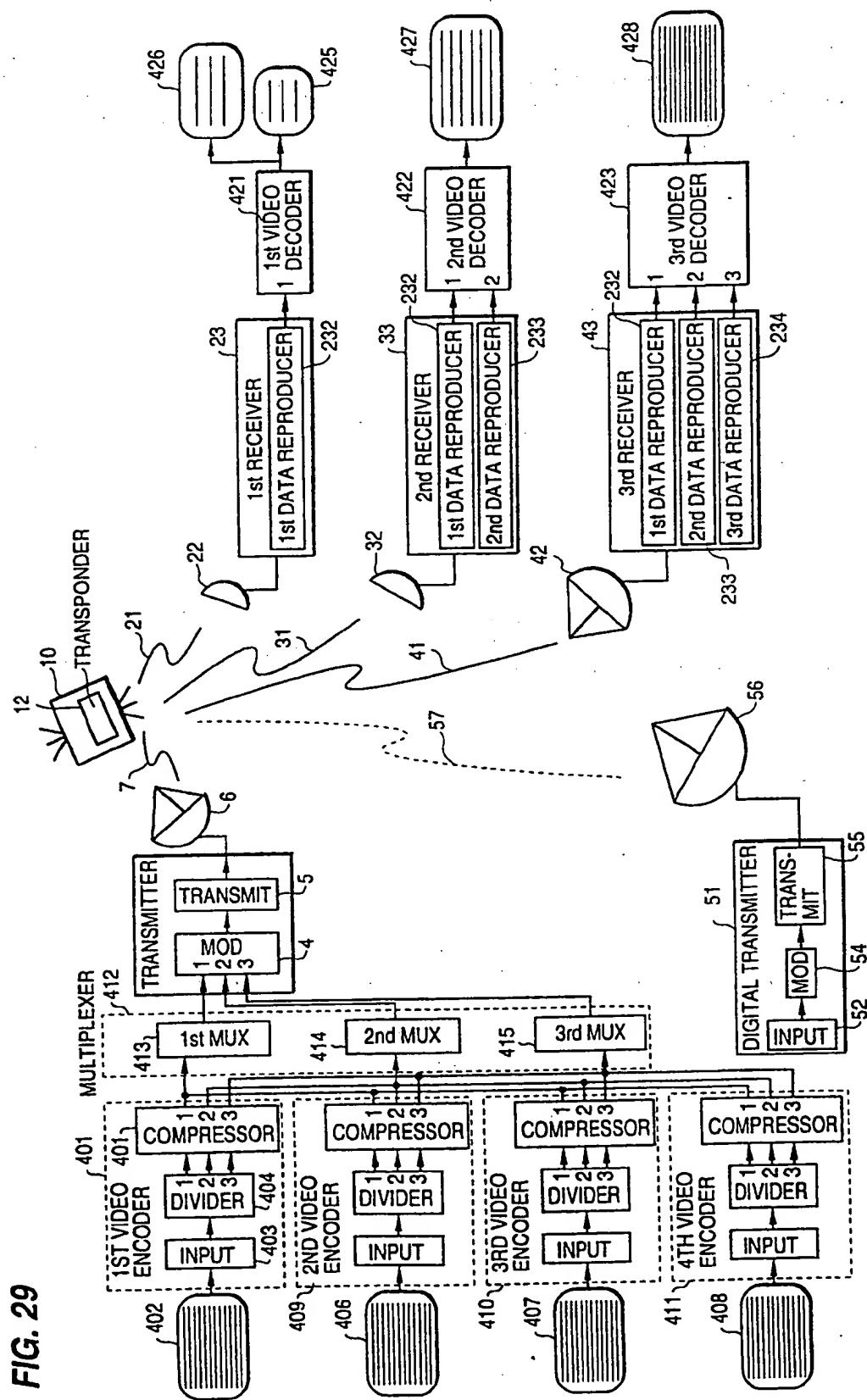
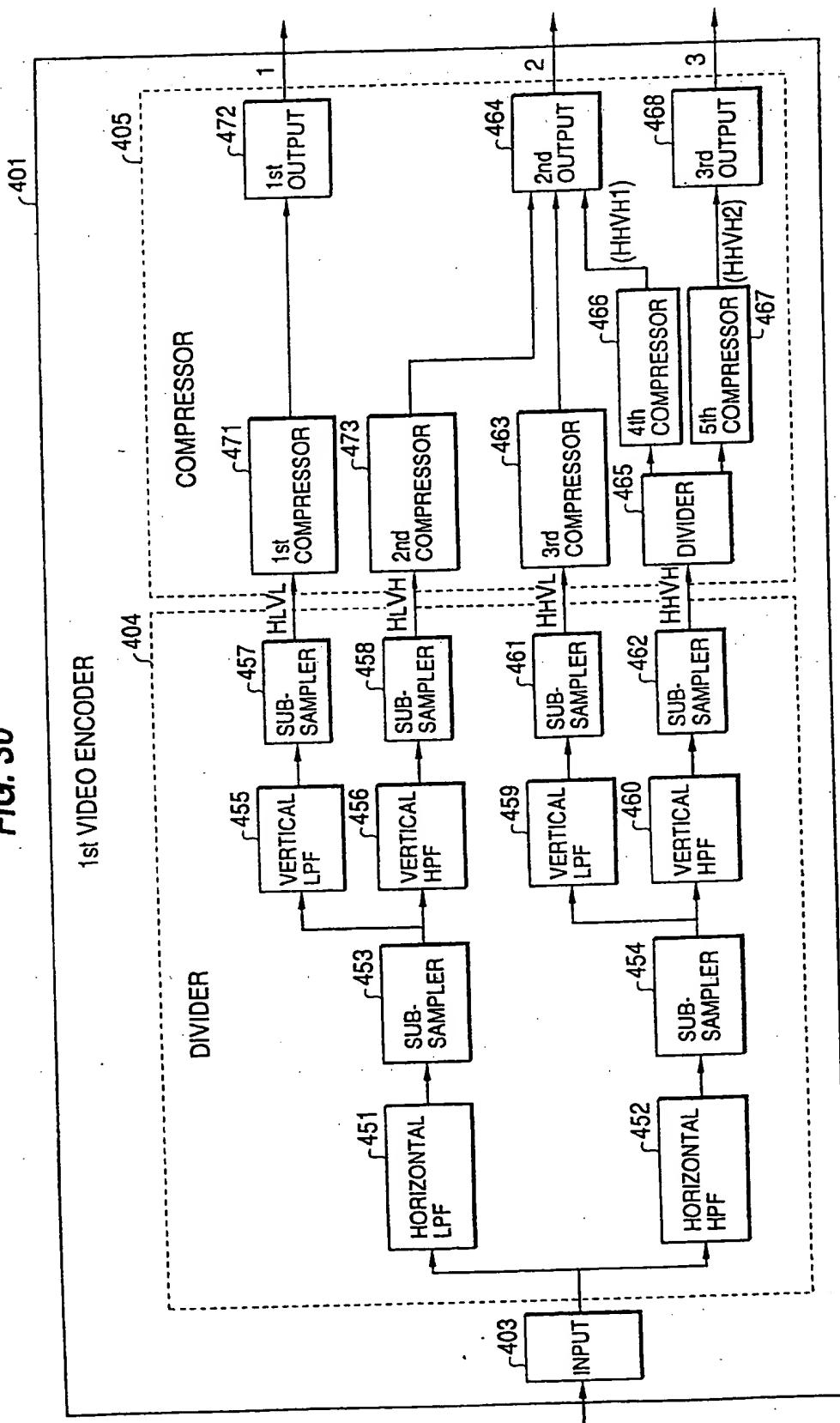


FIG. 30



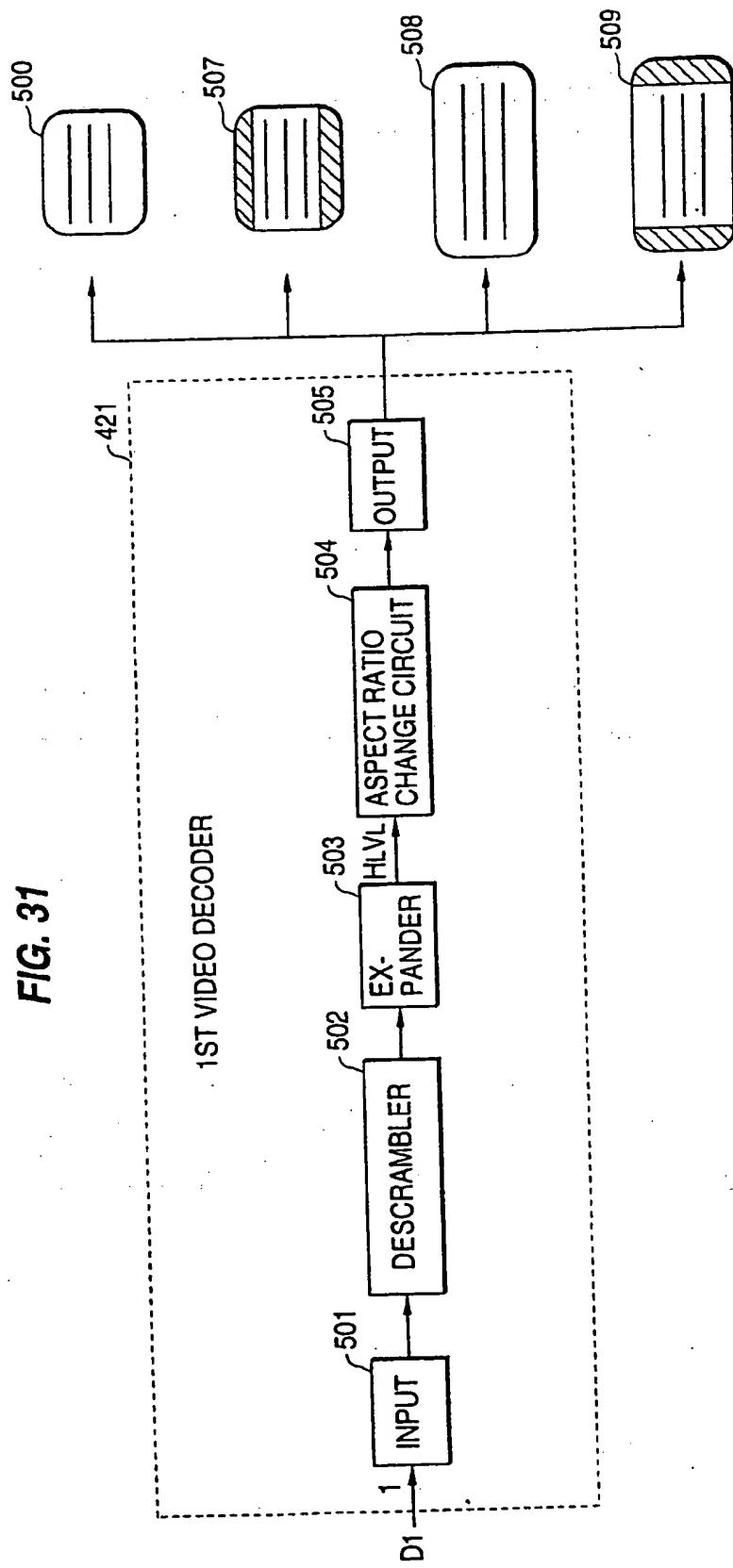


FIG. 32

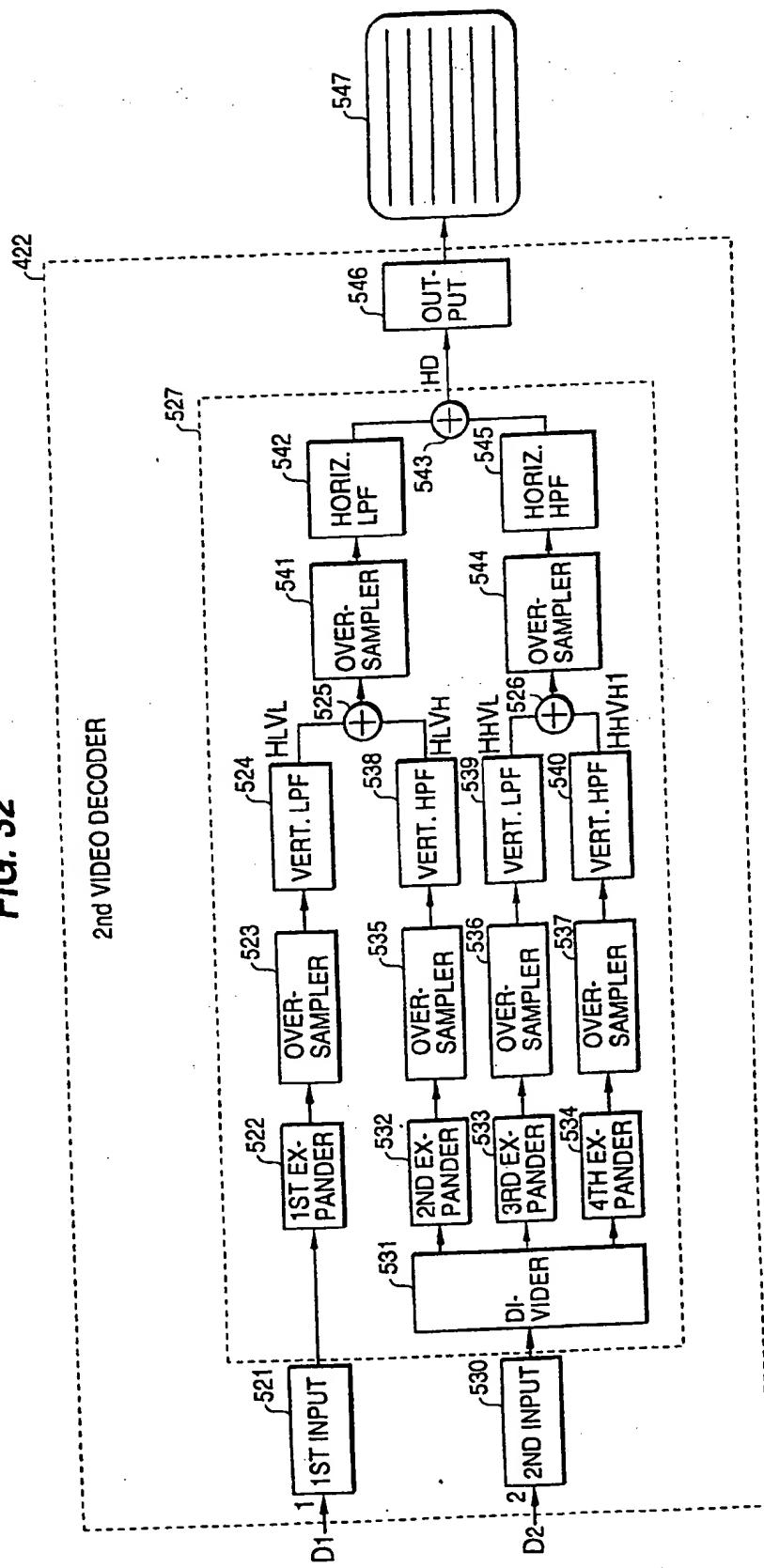


FIG. 33

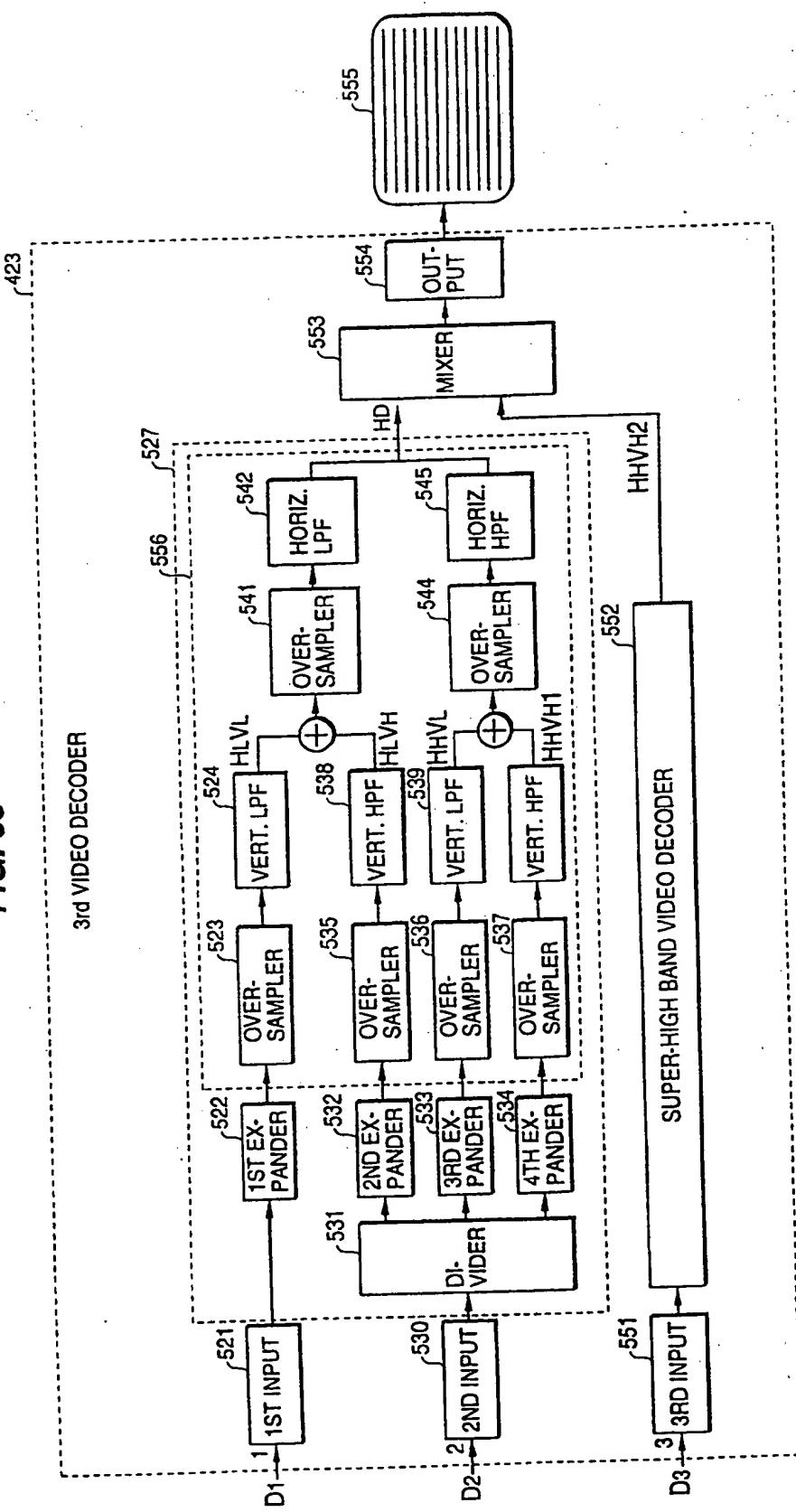


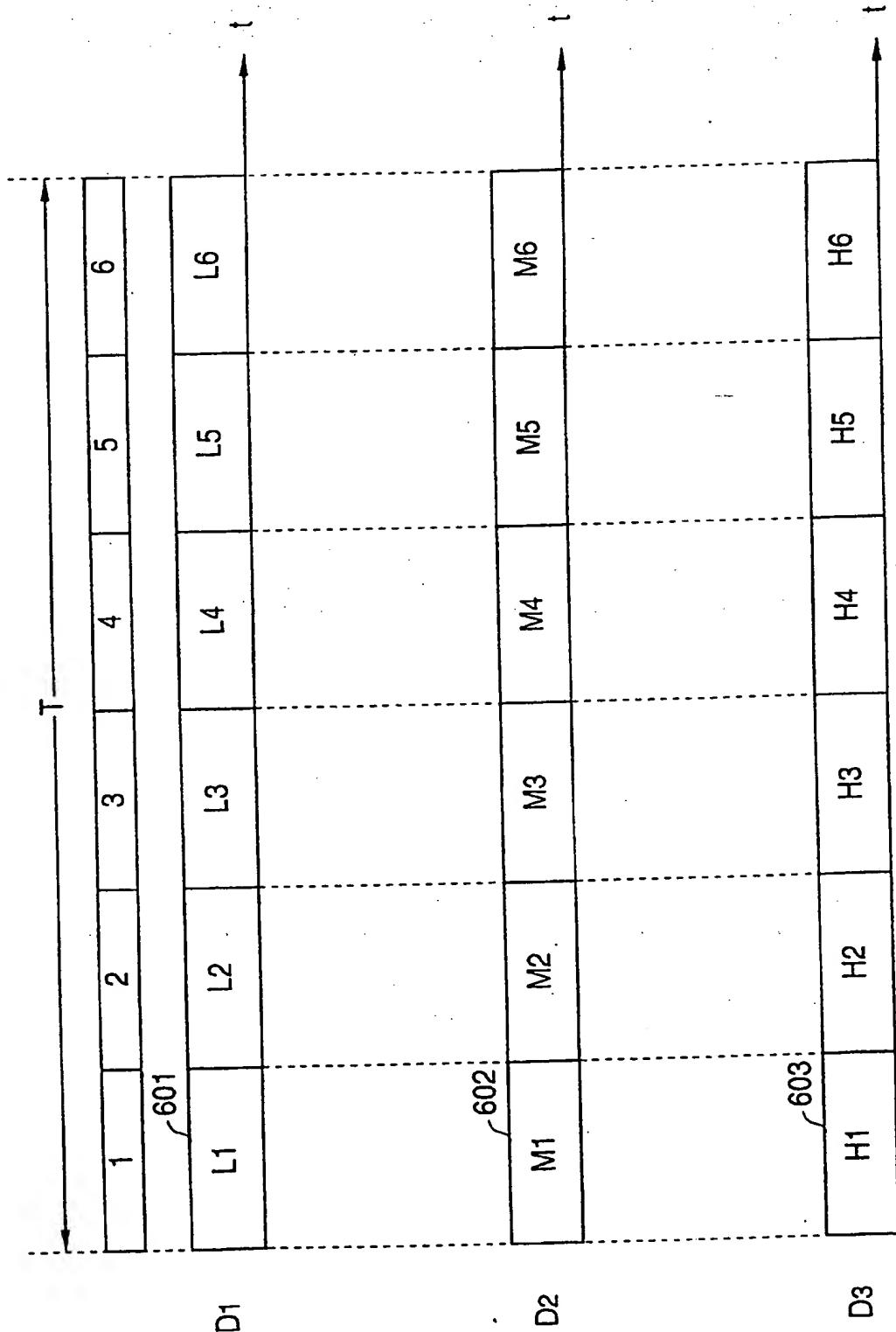
FIG. 34

FIG. 35

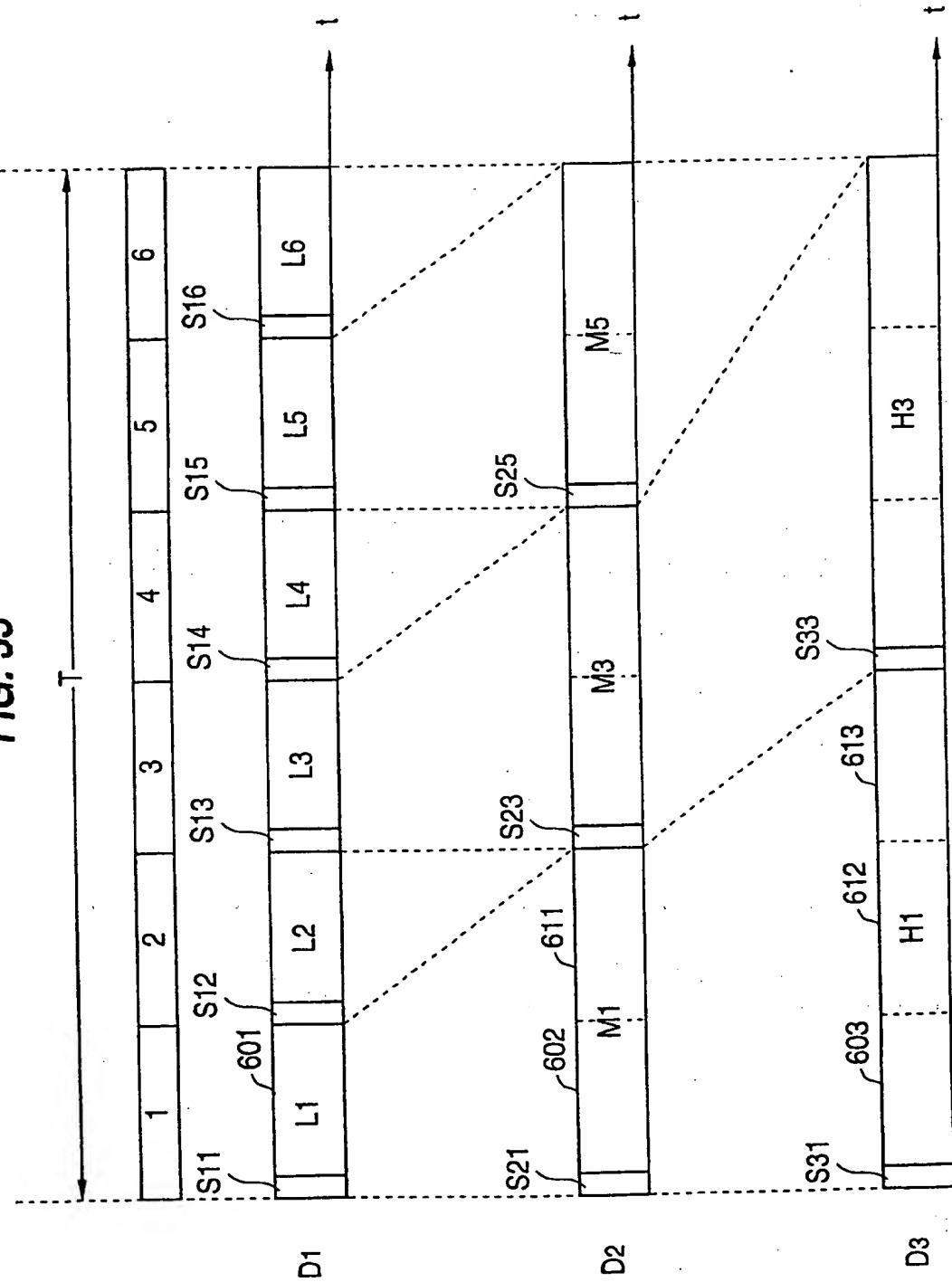
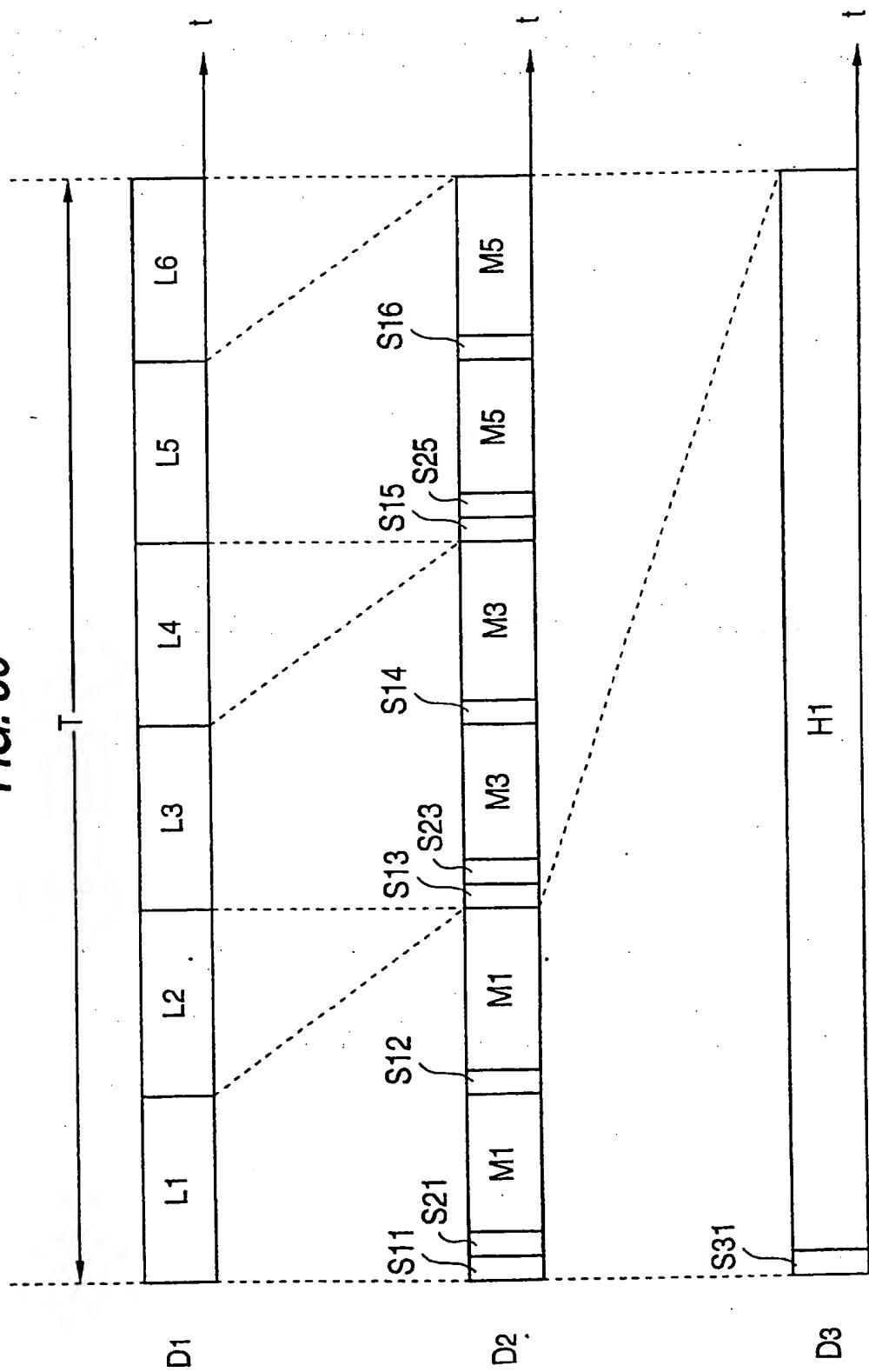


FIG. 36

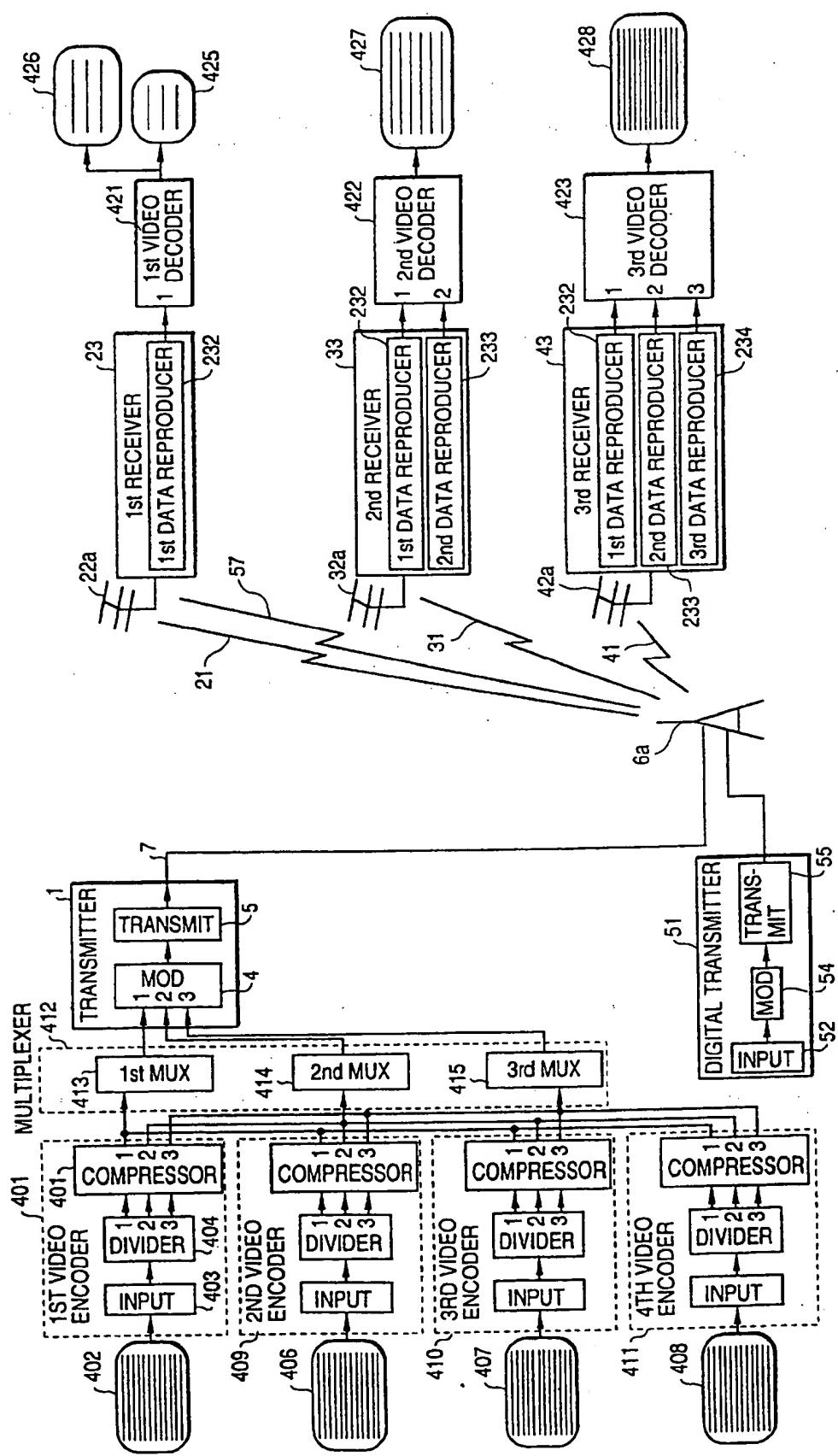


FIG. 38

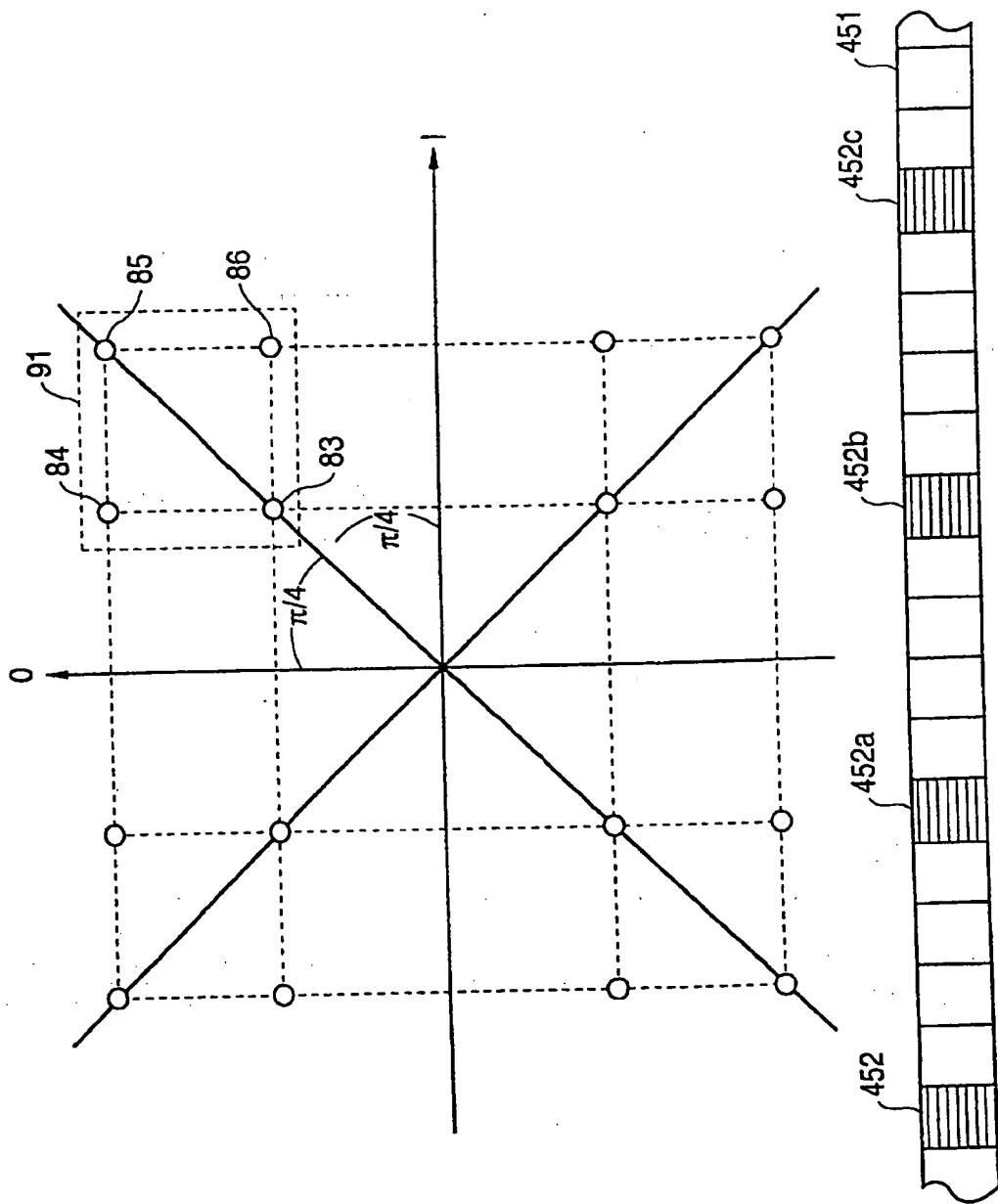


FIG. 39

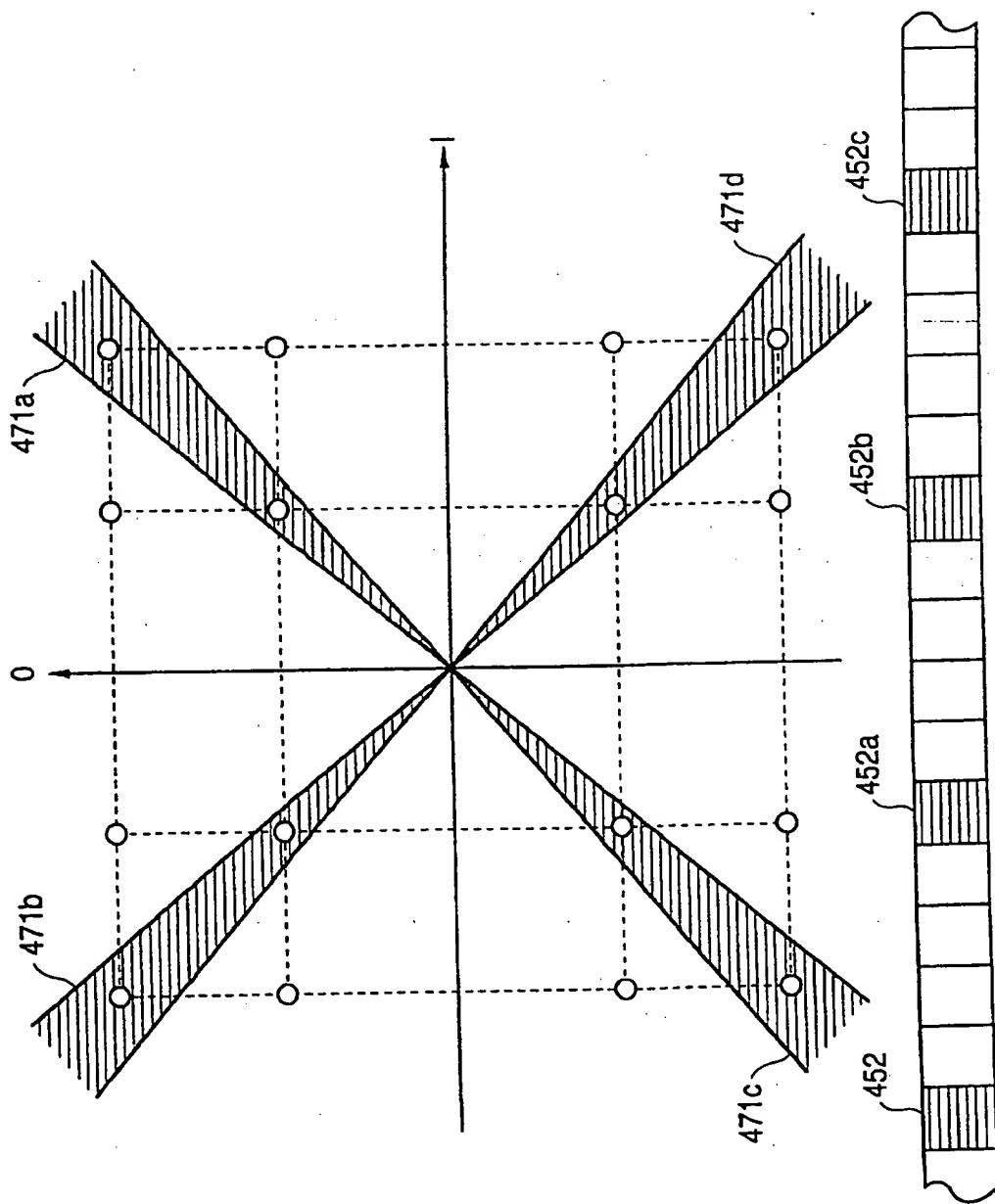


FIG. 40

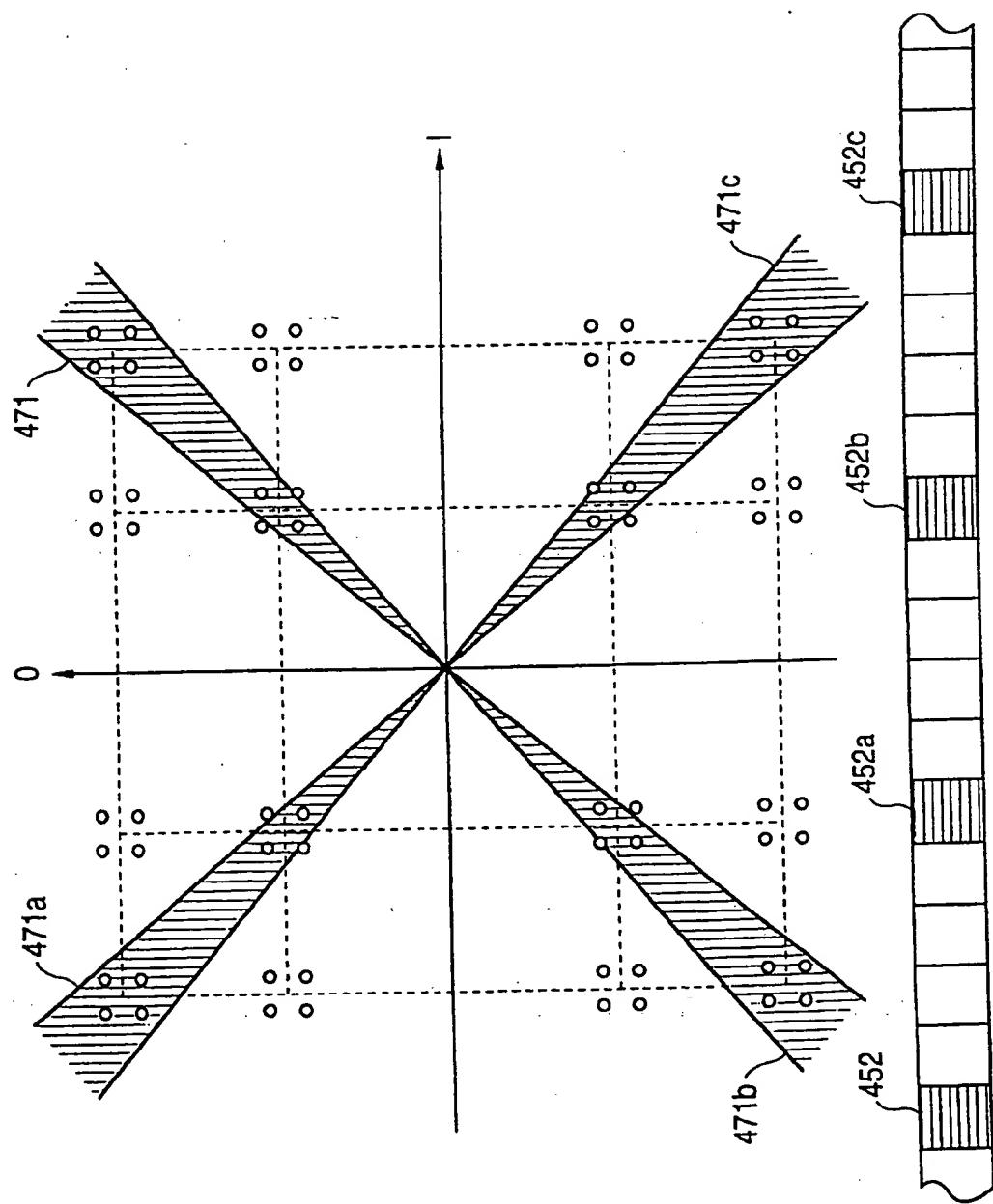
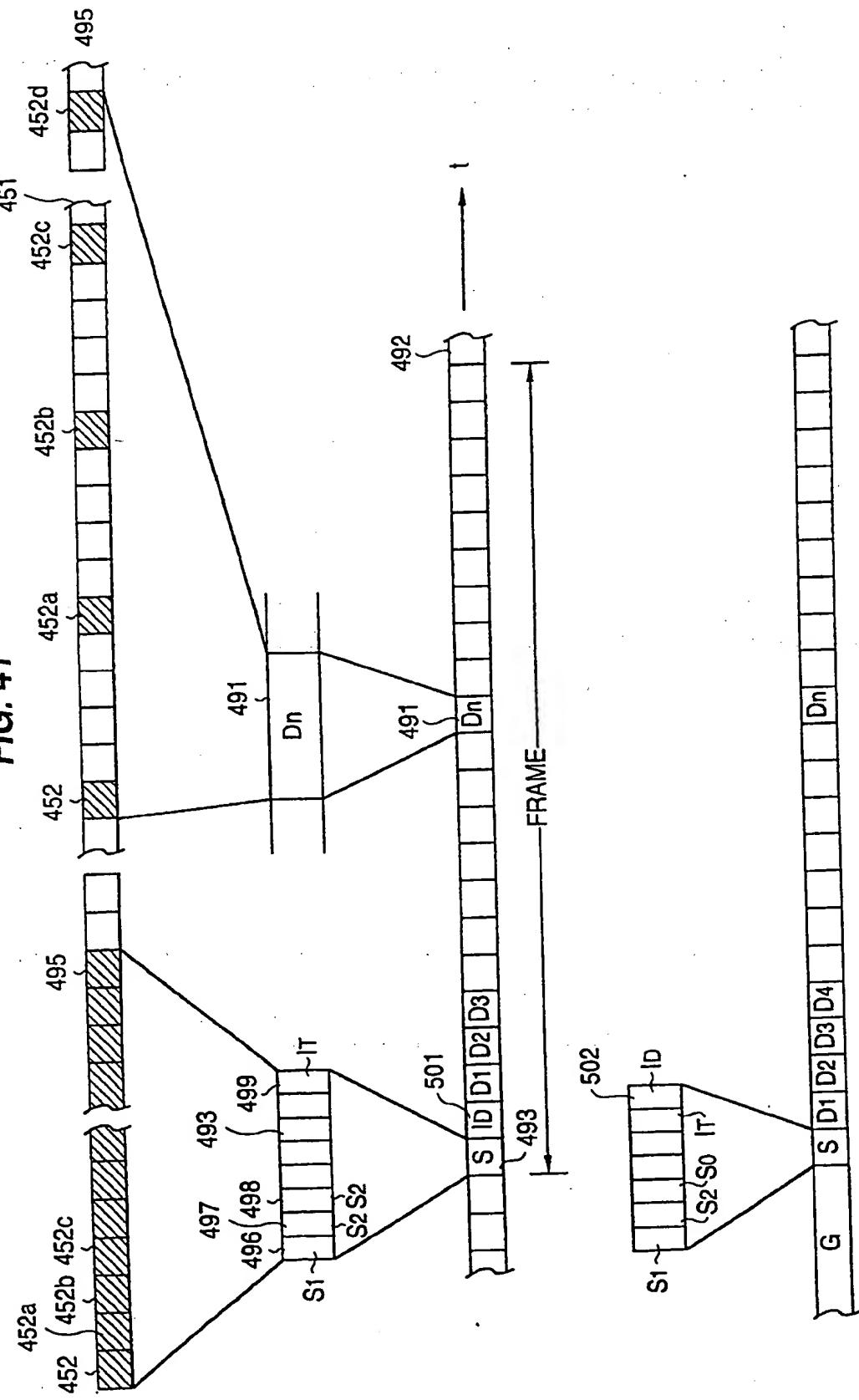


FIG. 41



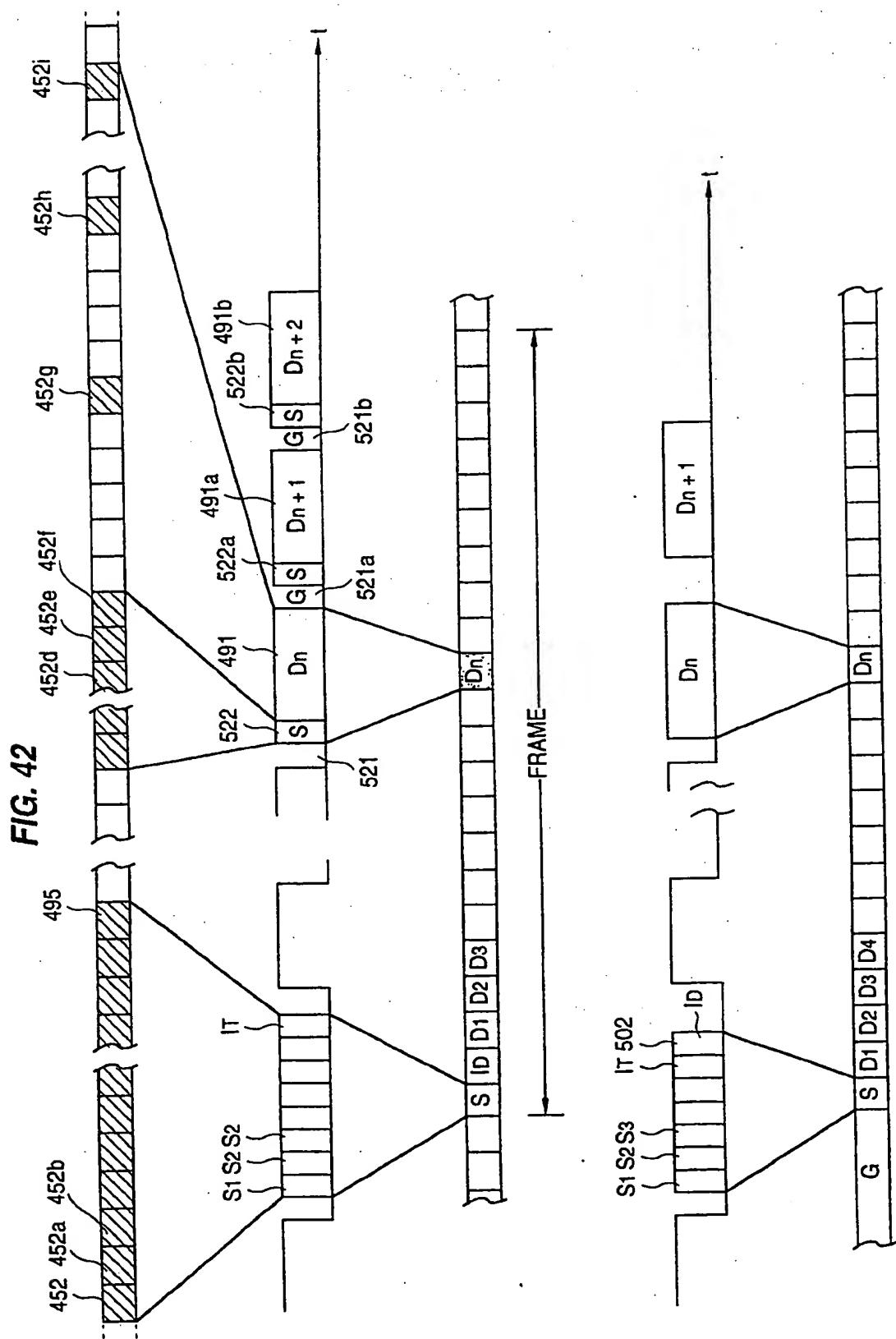


FIG. 43

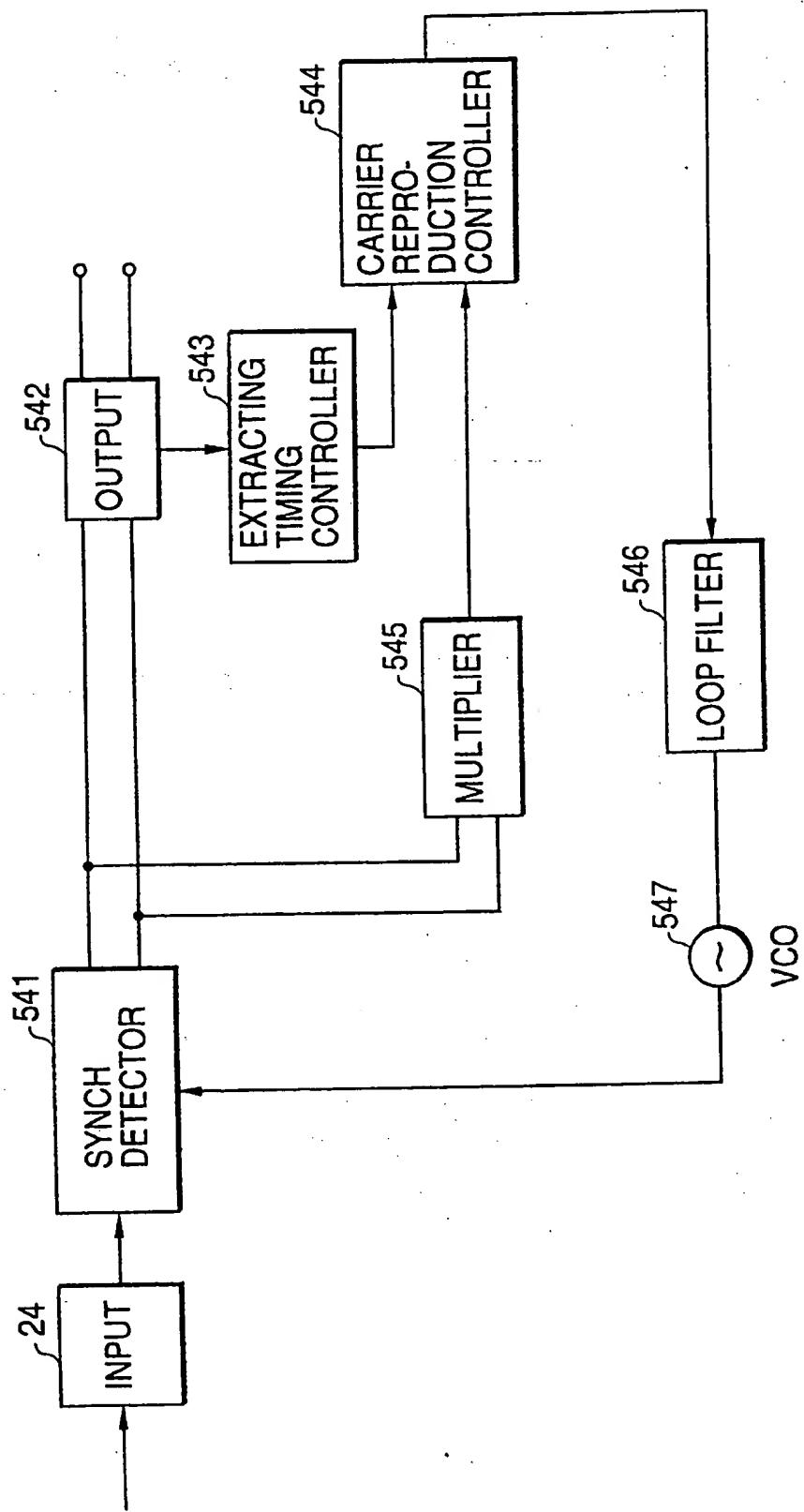
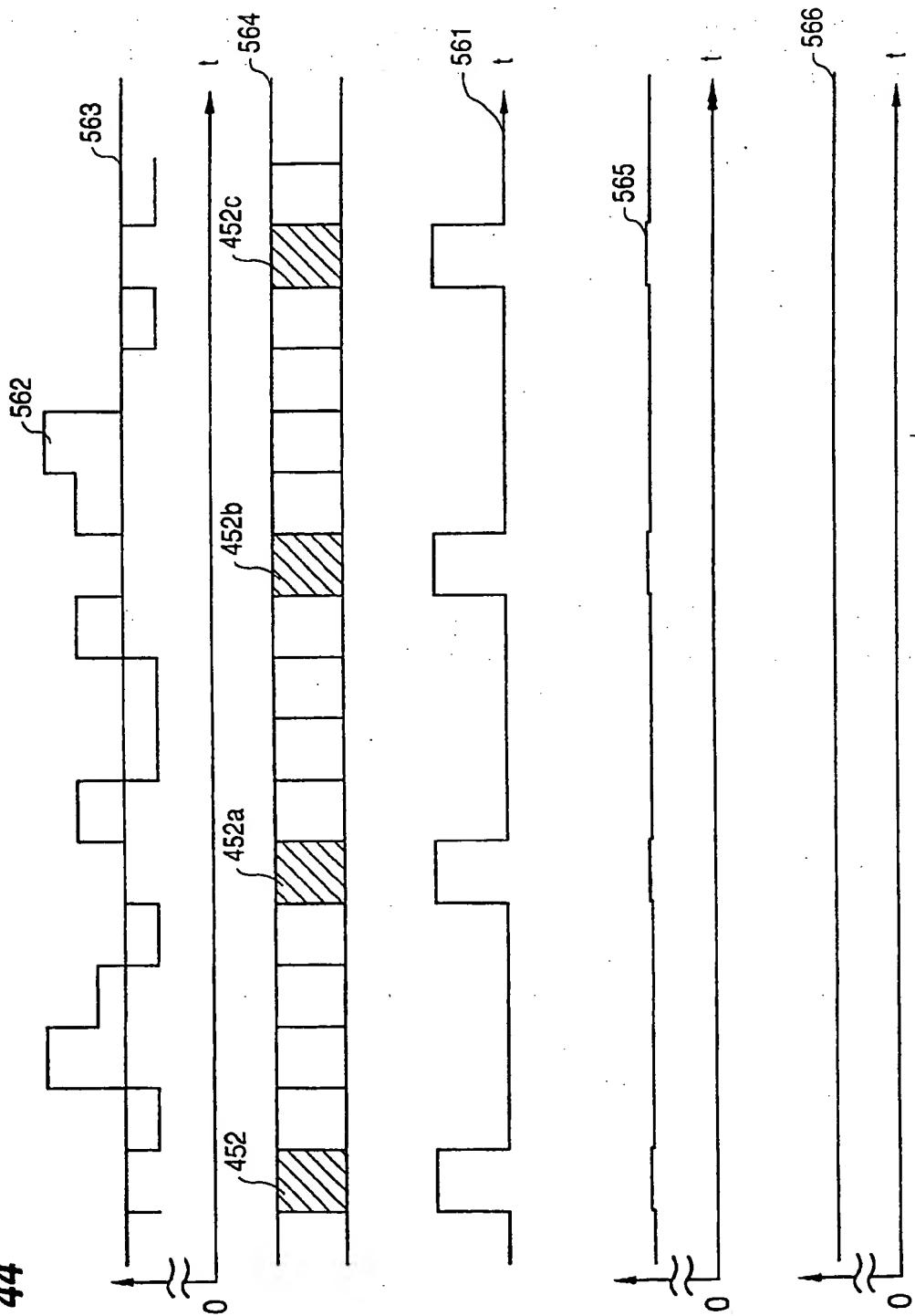


FIG. 44

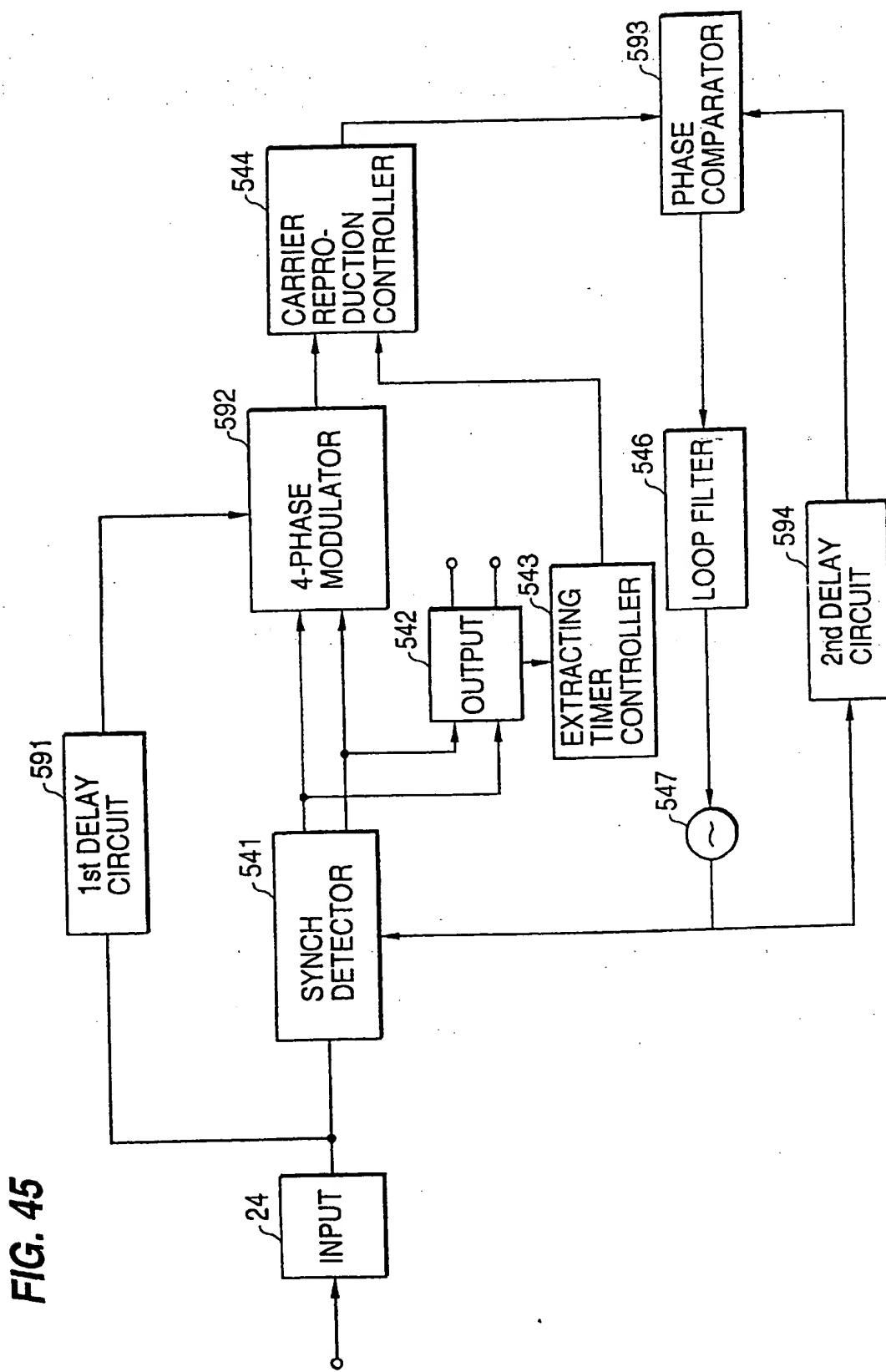
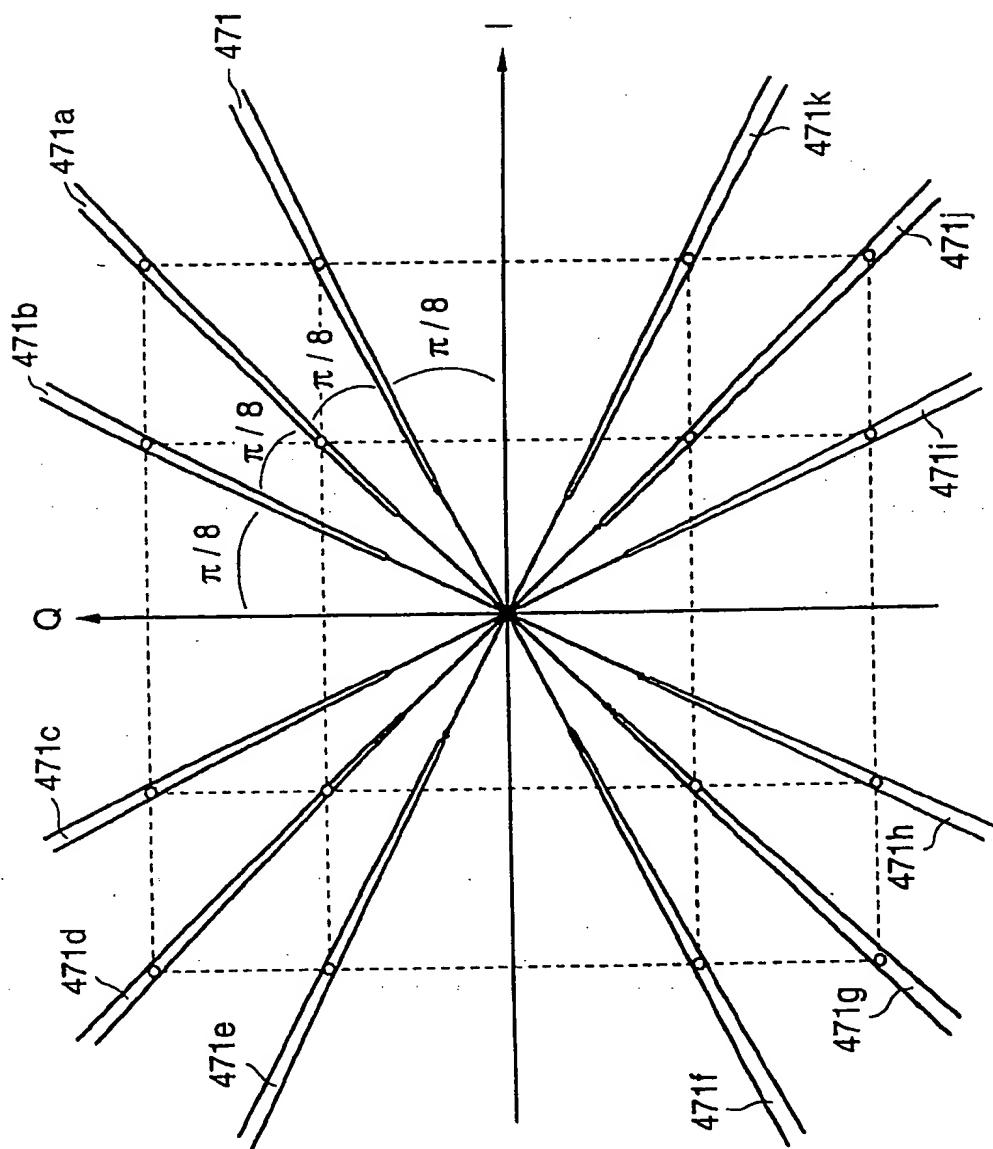


FIG. 46



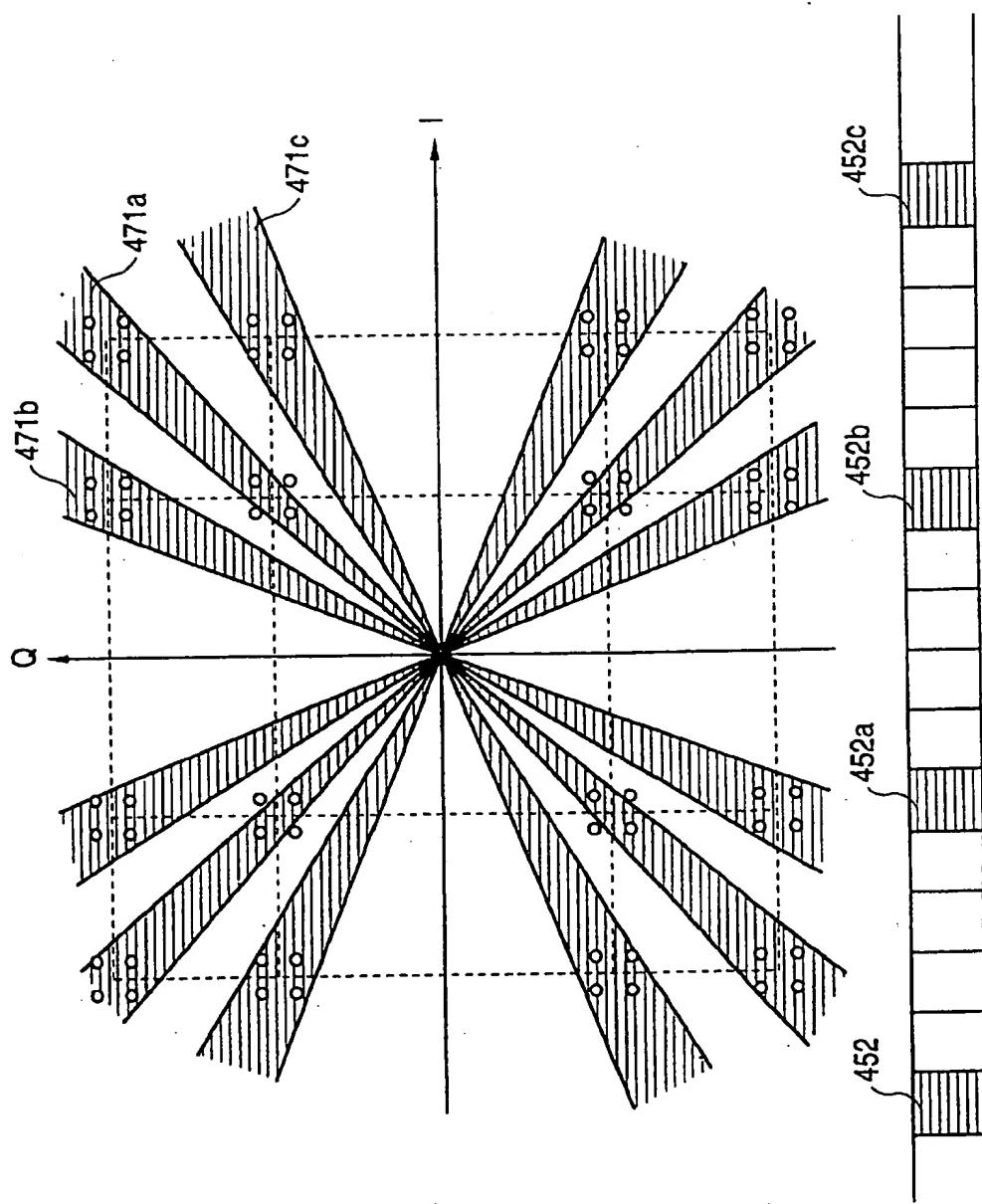


FIG. 47

FIG. 48

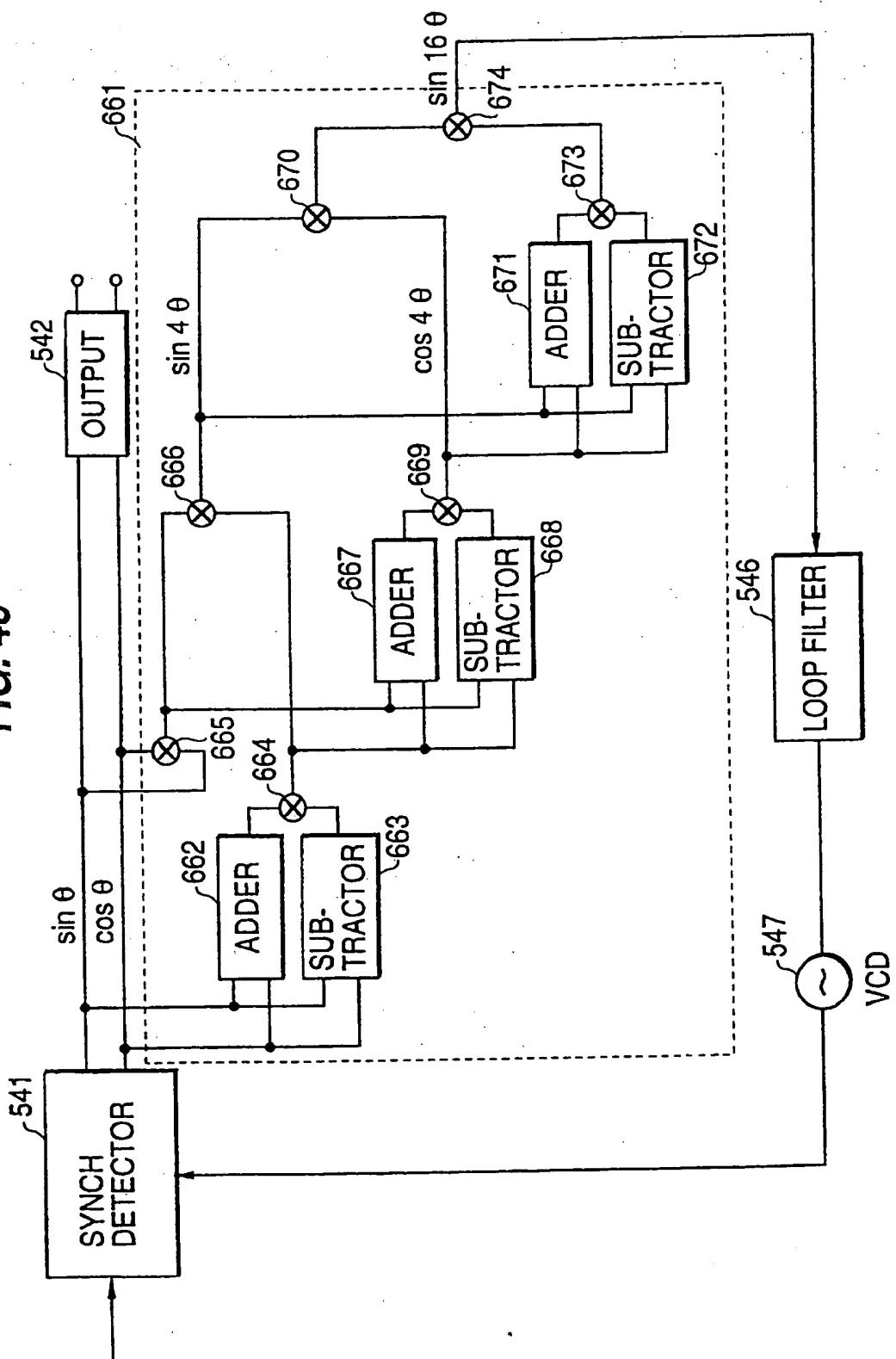


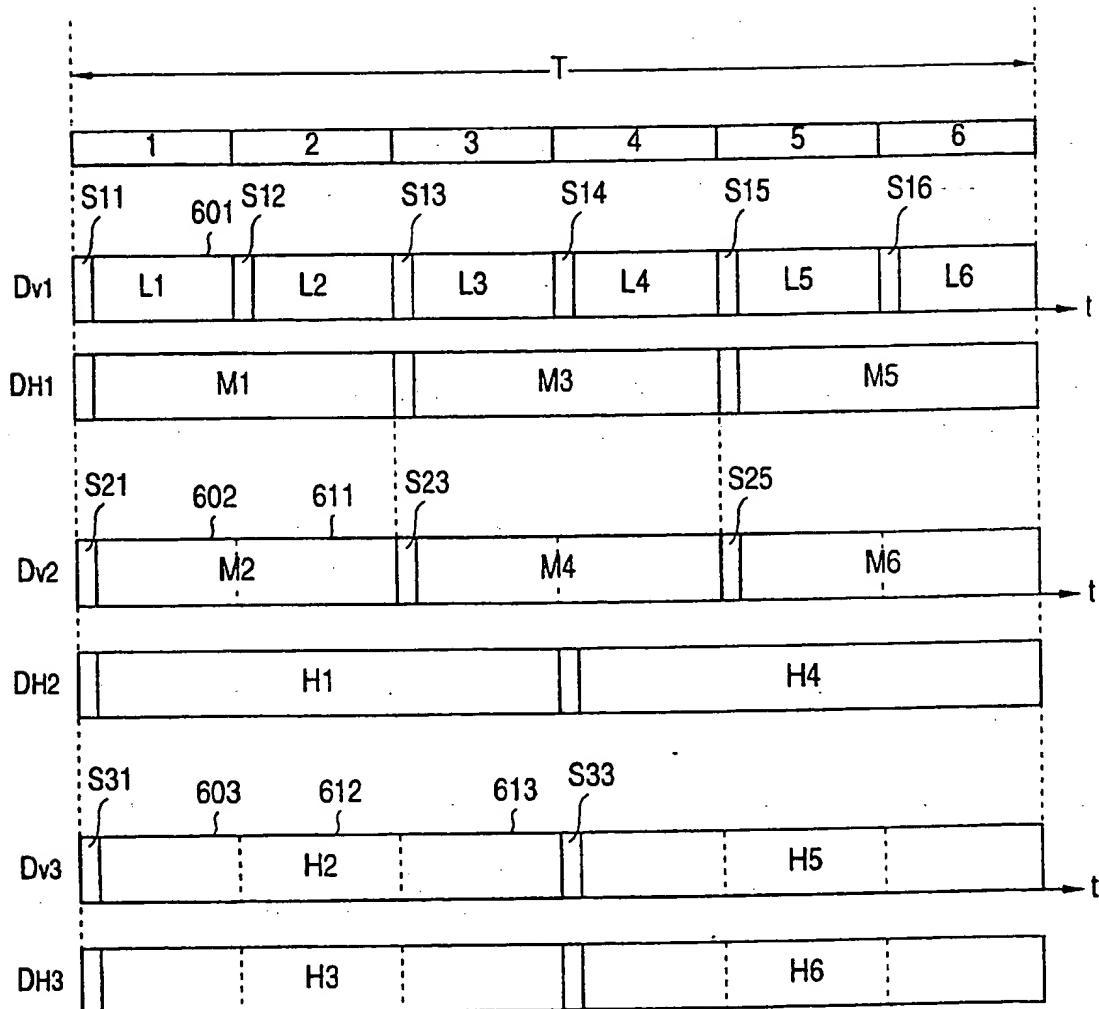
FIG. 49

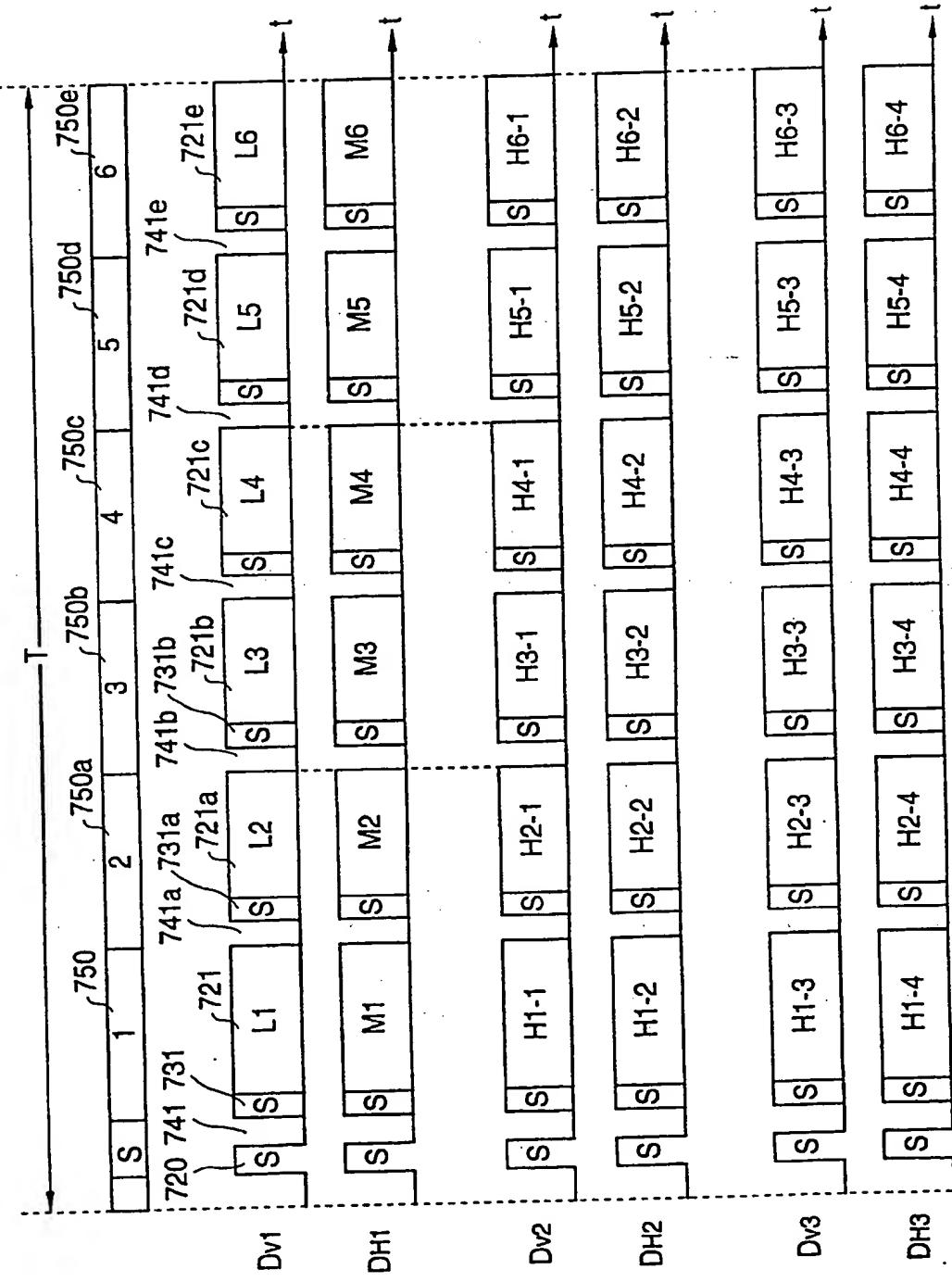
FIG. 50

FIG. 51

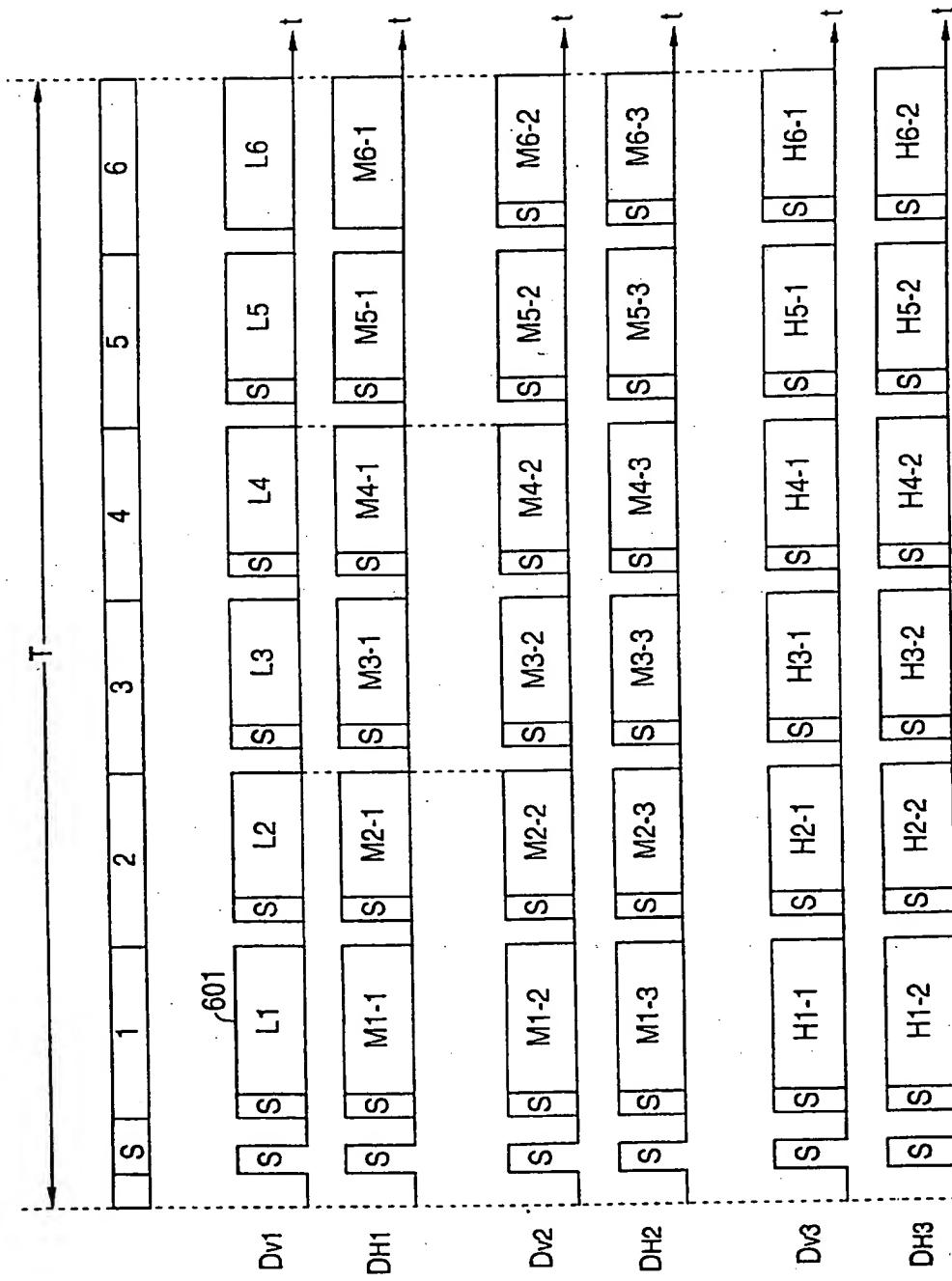


FIG. 52

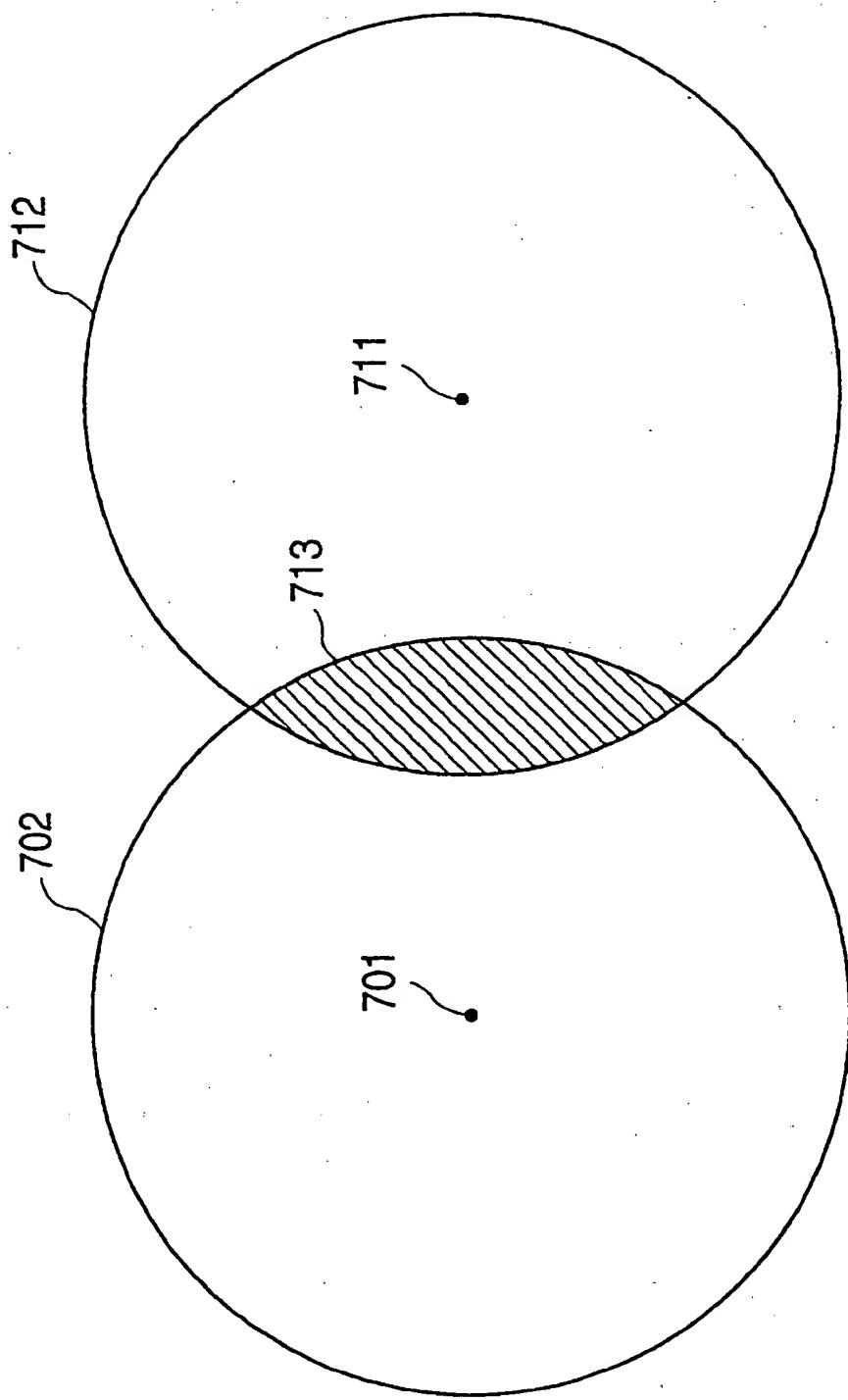


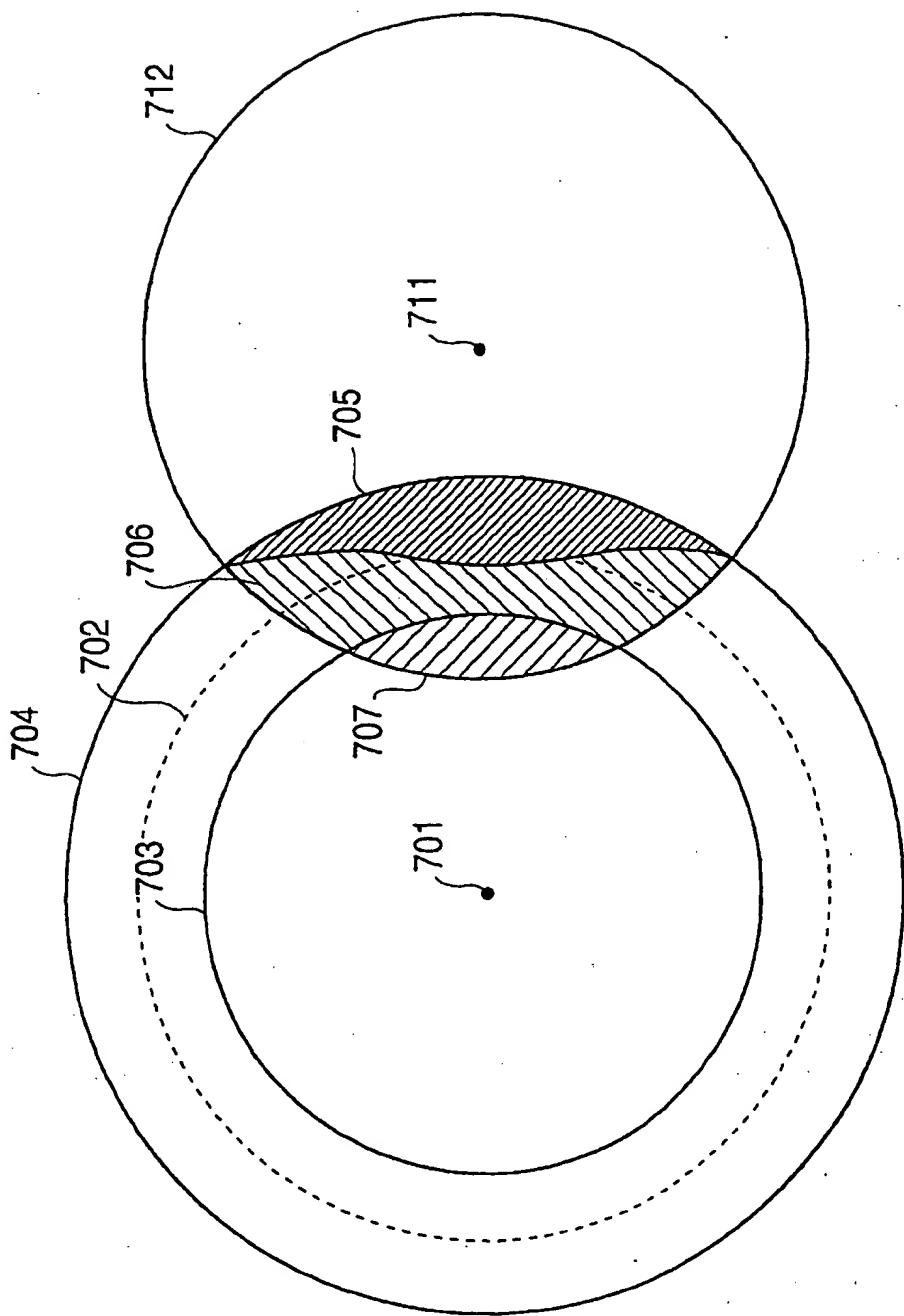
FIG. 53

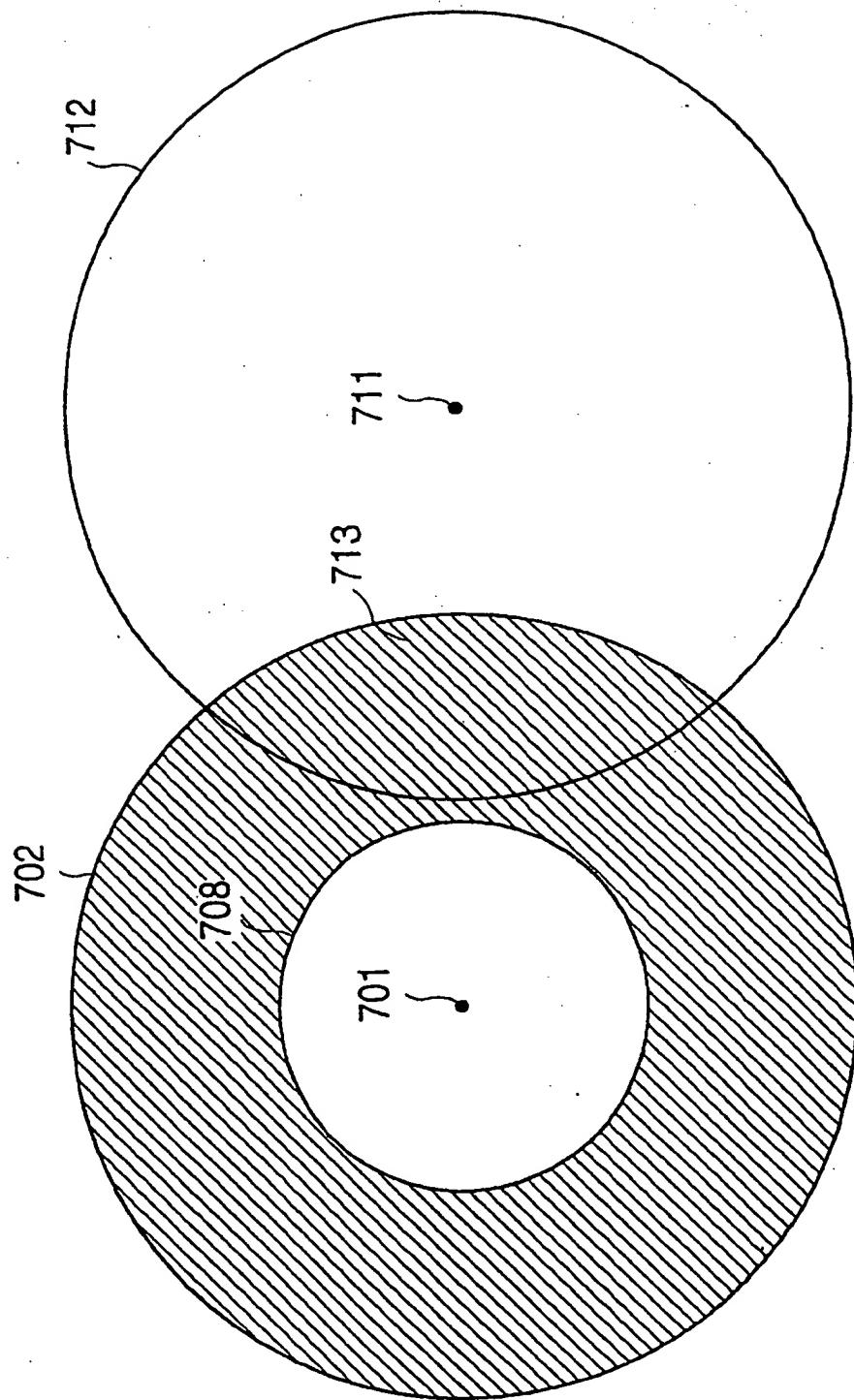
FIG. 54

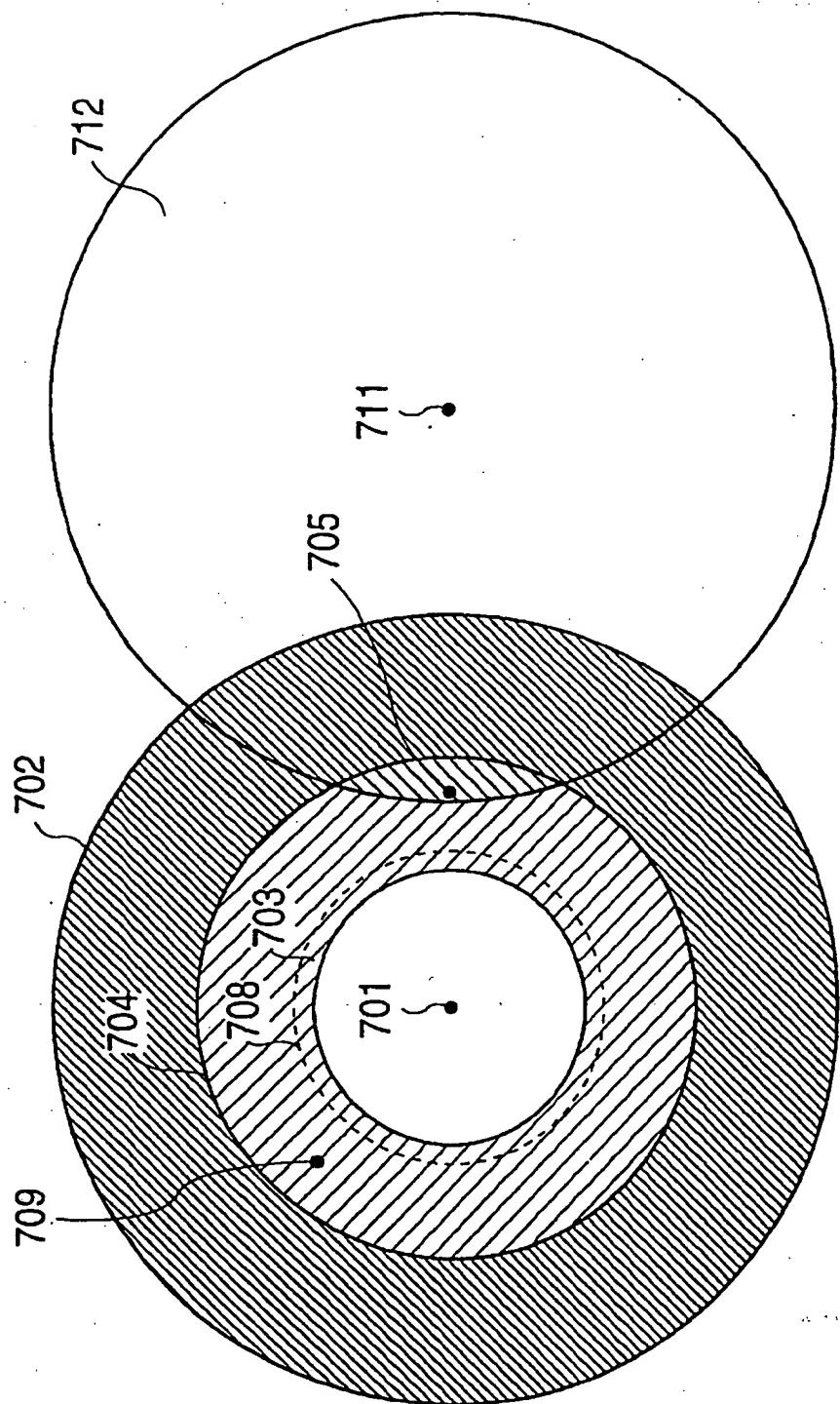
FIG. 55

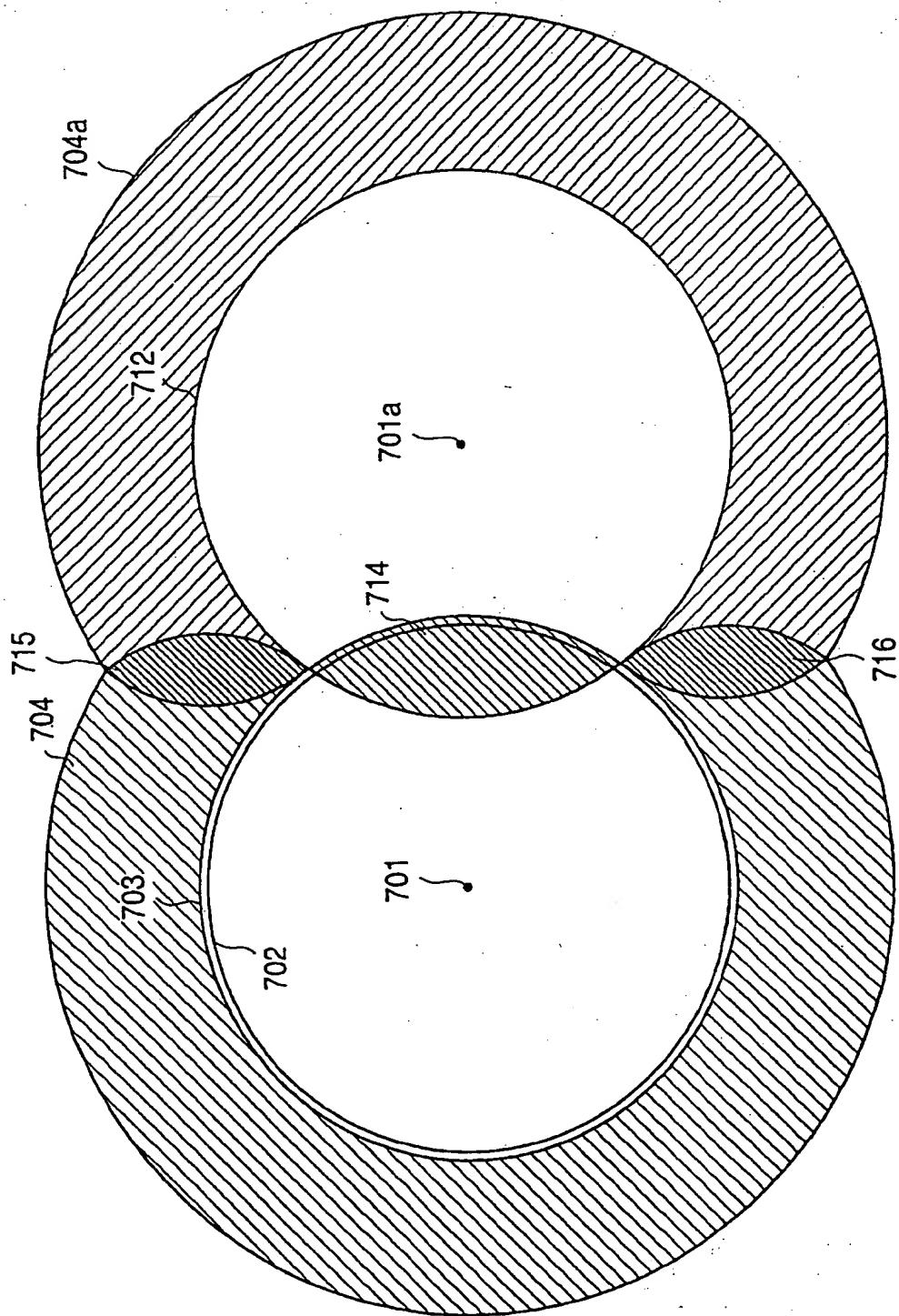
FIG. 56

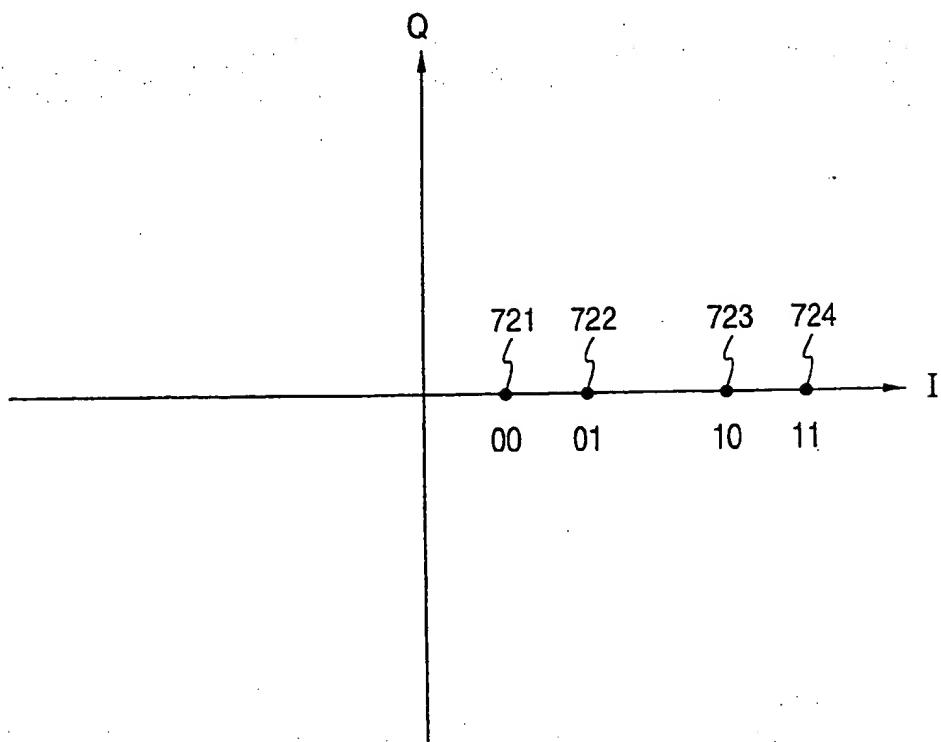
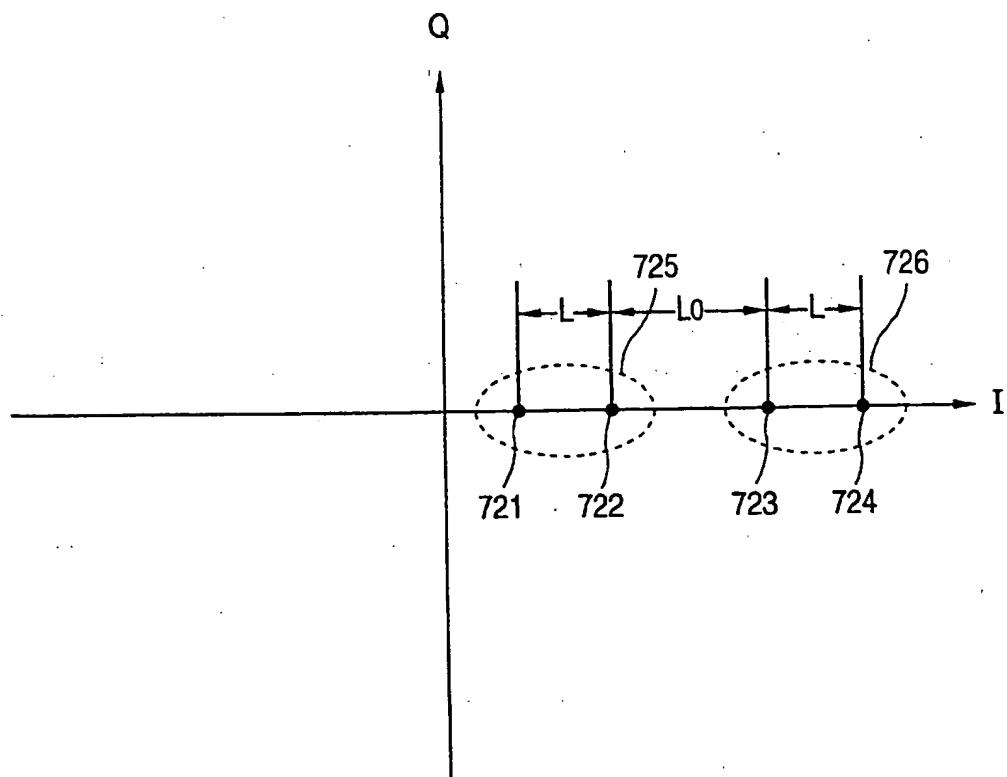
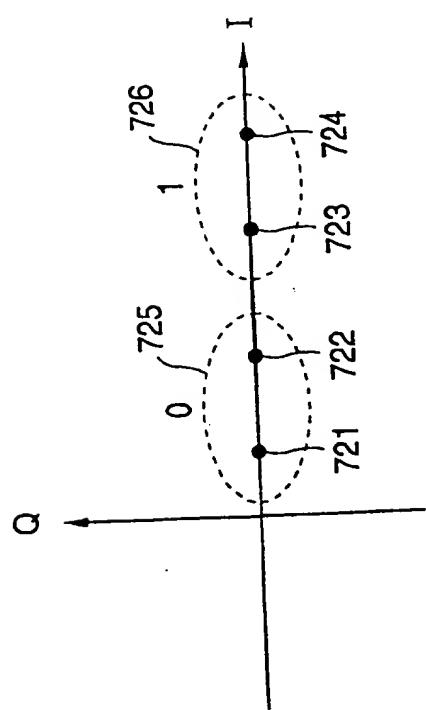
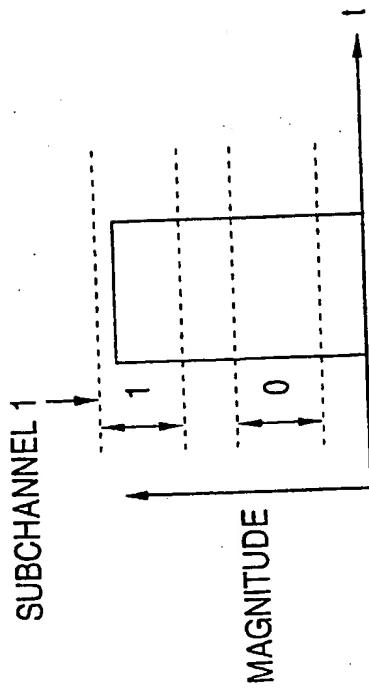
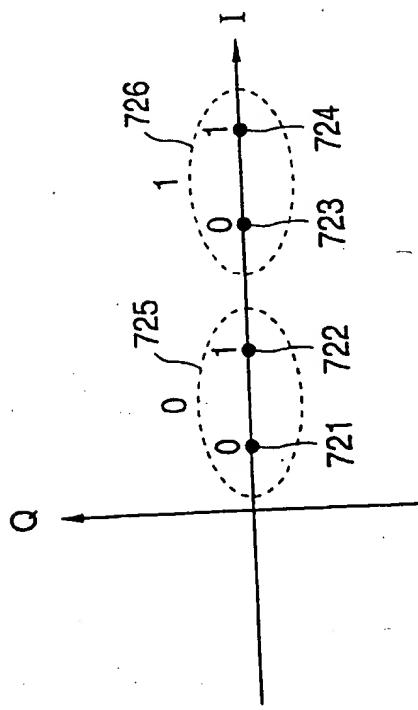
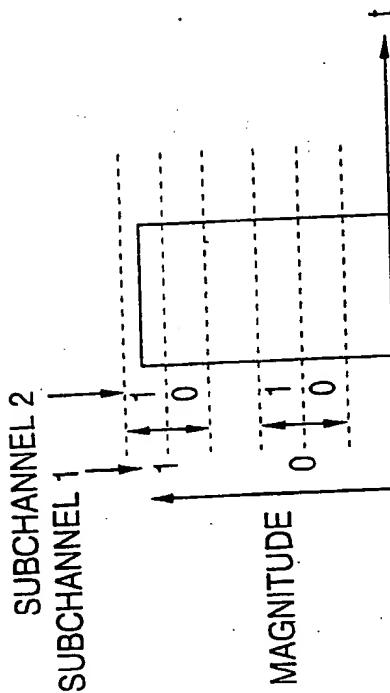
FIG. 57**FIG. 58**

FIG. 59(a)**FIG. 59(c)****FIG. 59(d)****FIG. 59(d)**

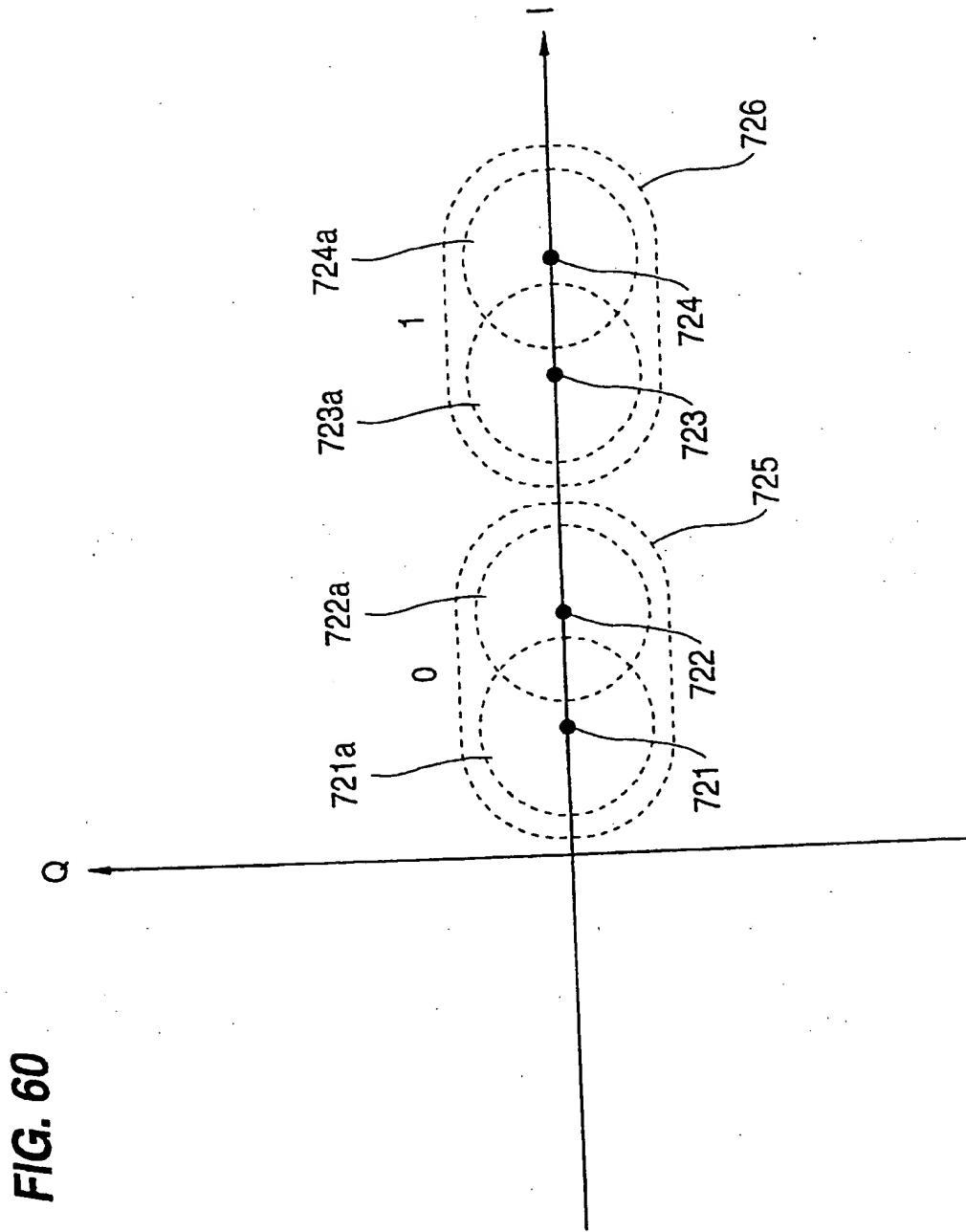


FIG. 61

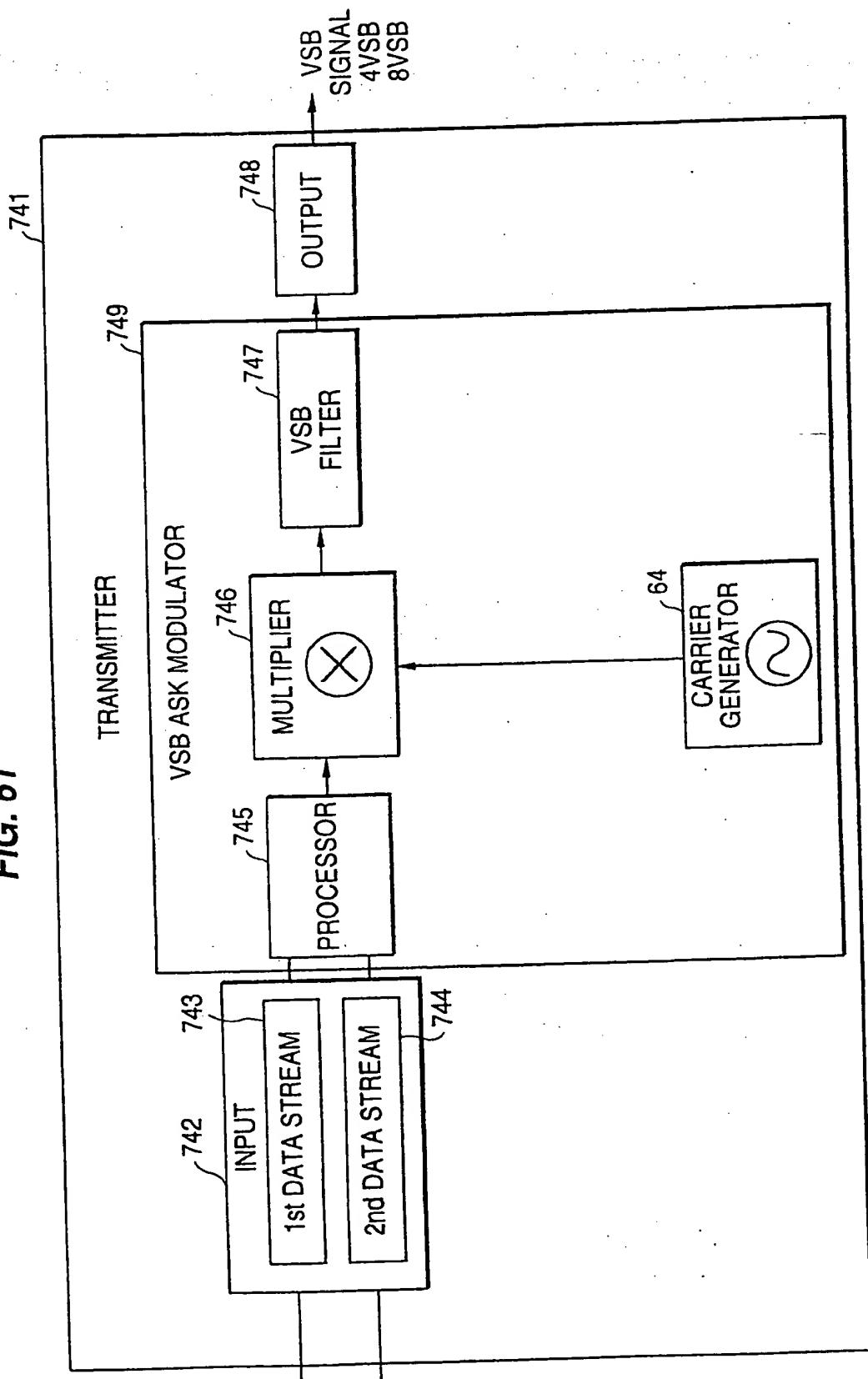


FIG. 62(a)
SPECTRUM OF ASK SIGNAL

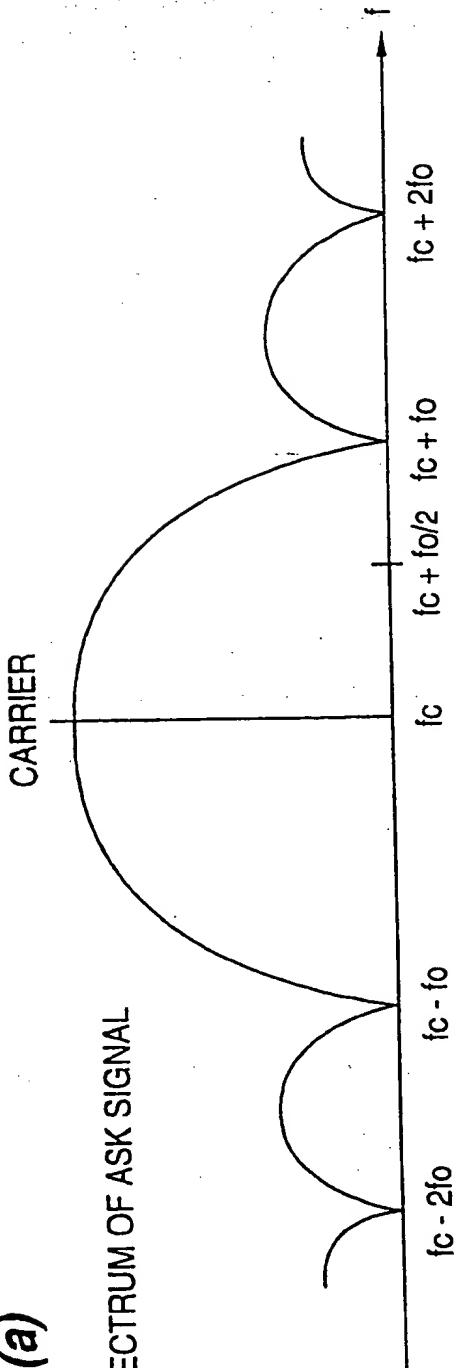


FIG. 62(b)

CHARACTERISTICS OF VSB FILTER

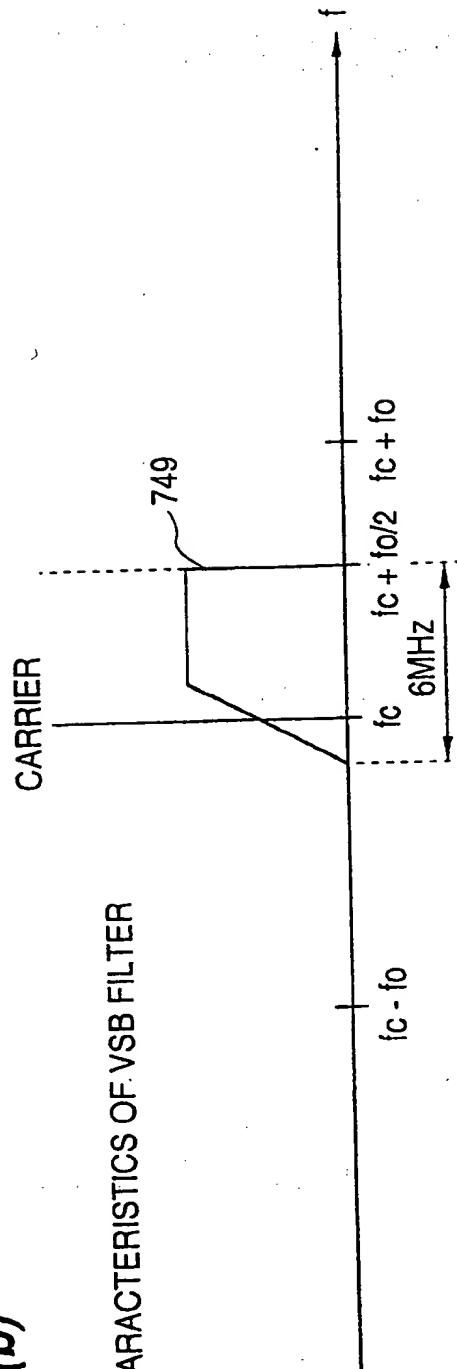


FIG. 63

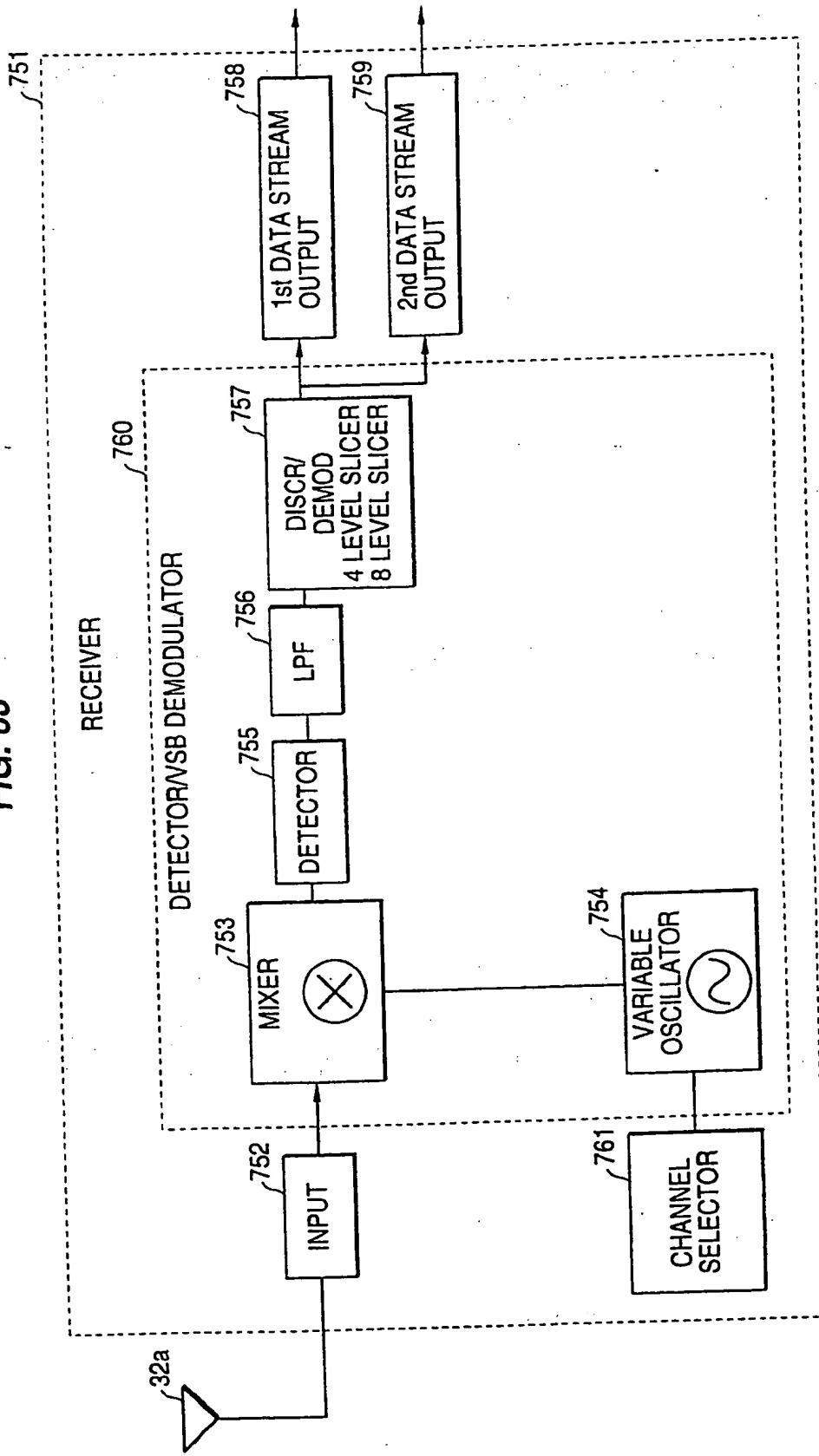


FIG. 64

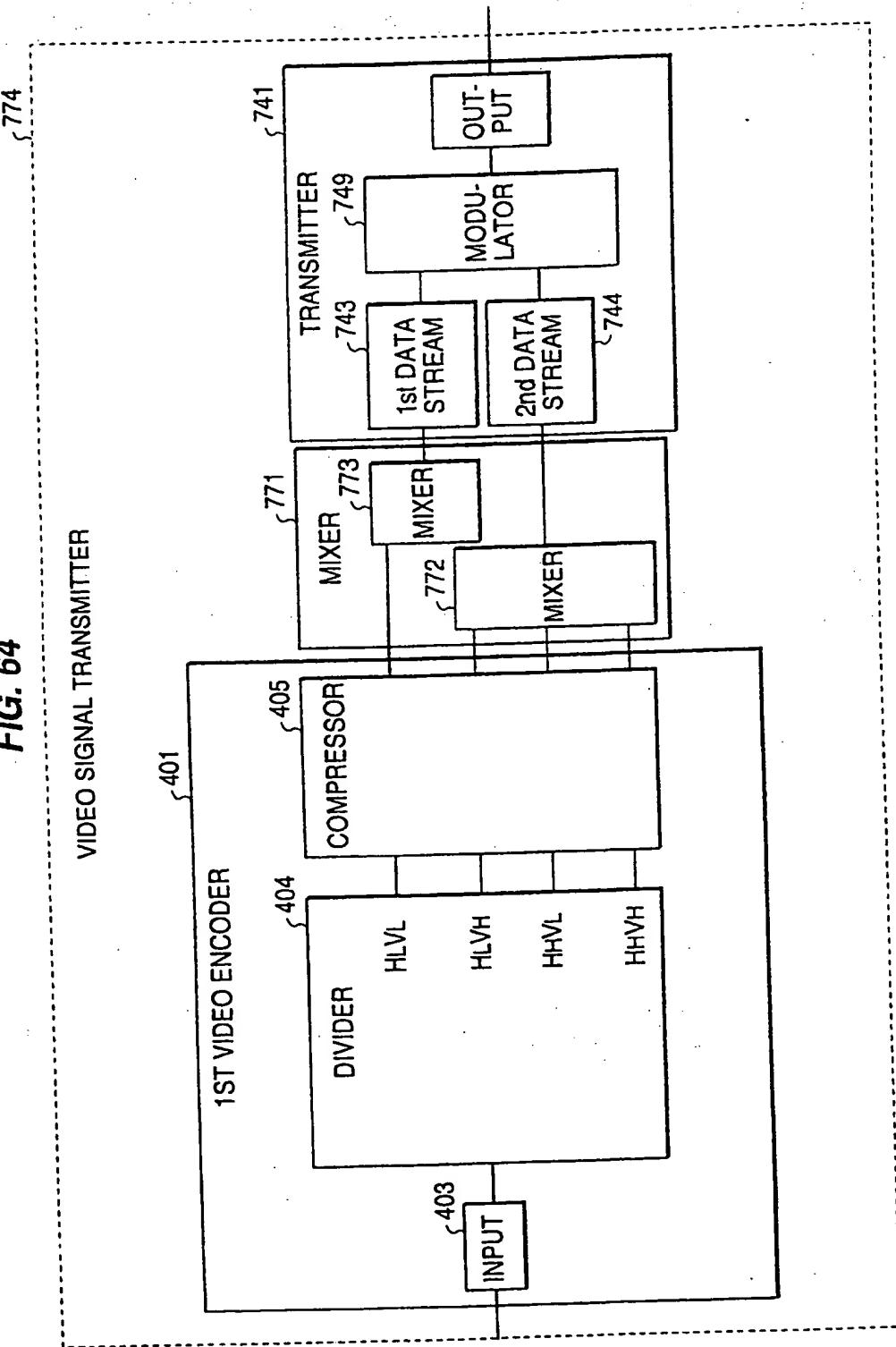


FIG. 65

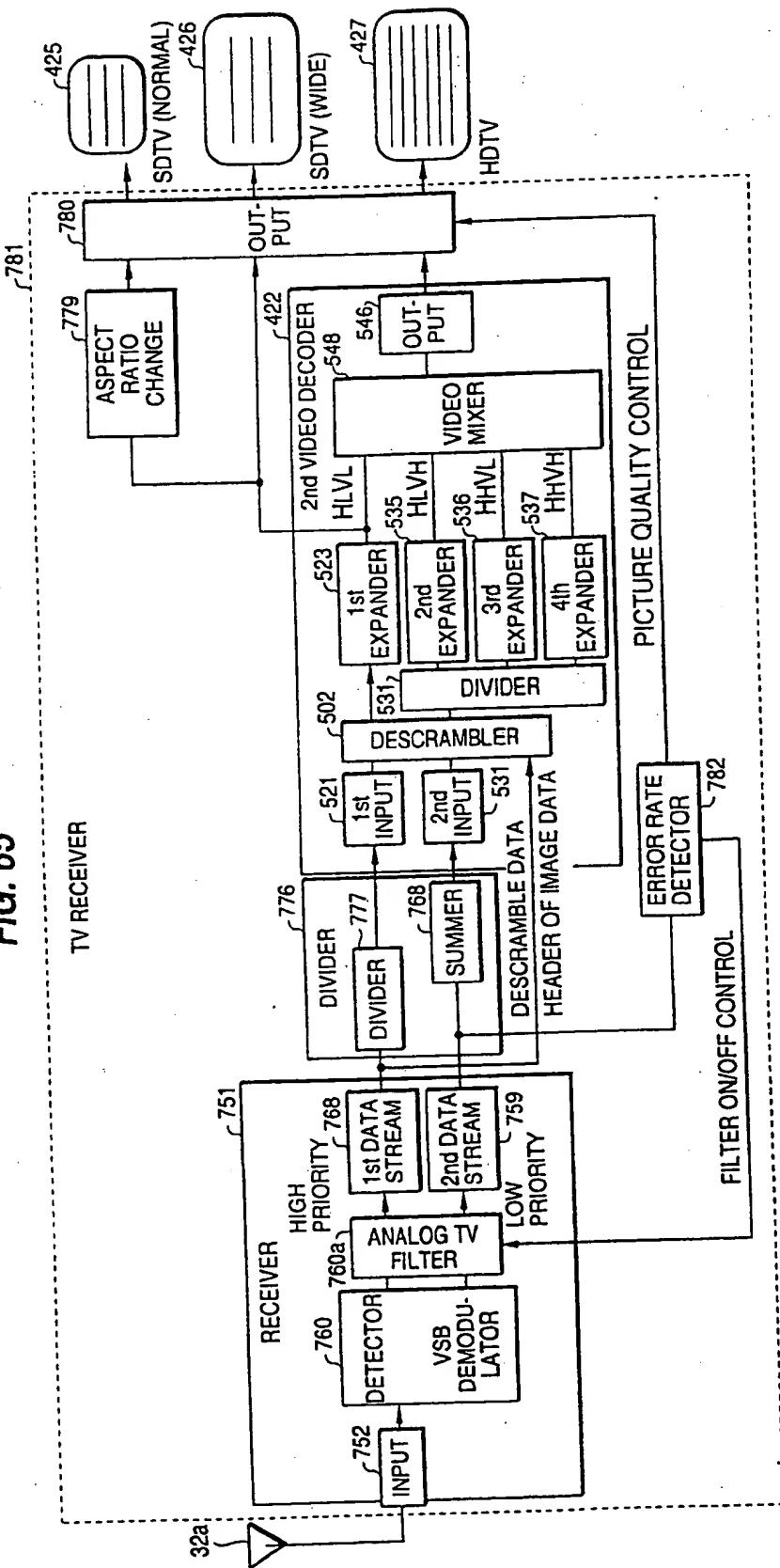


FIG. 66

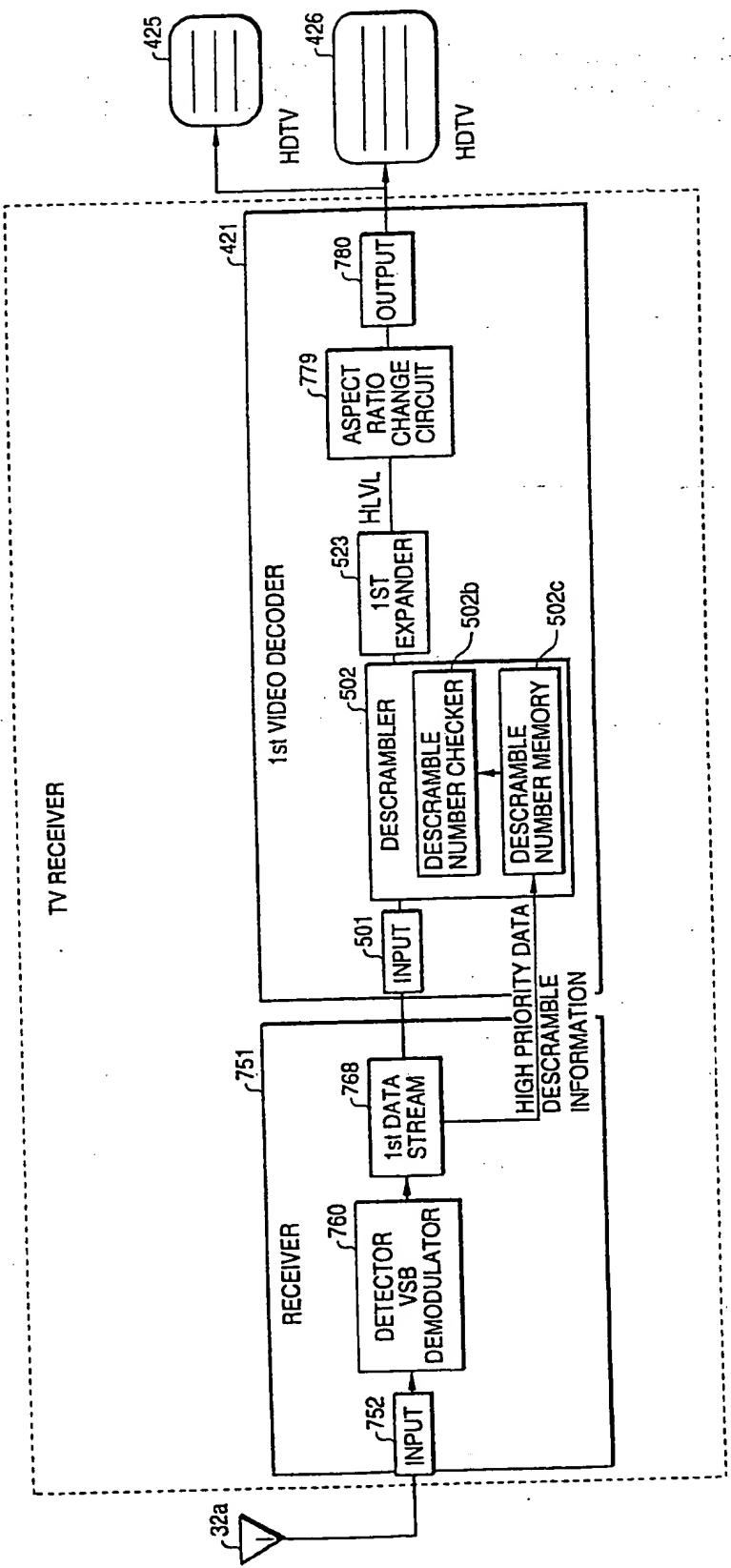


FIG. 67

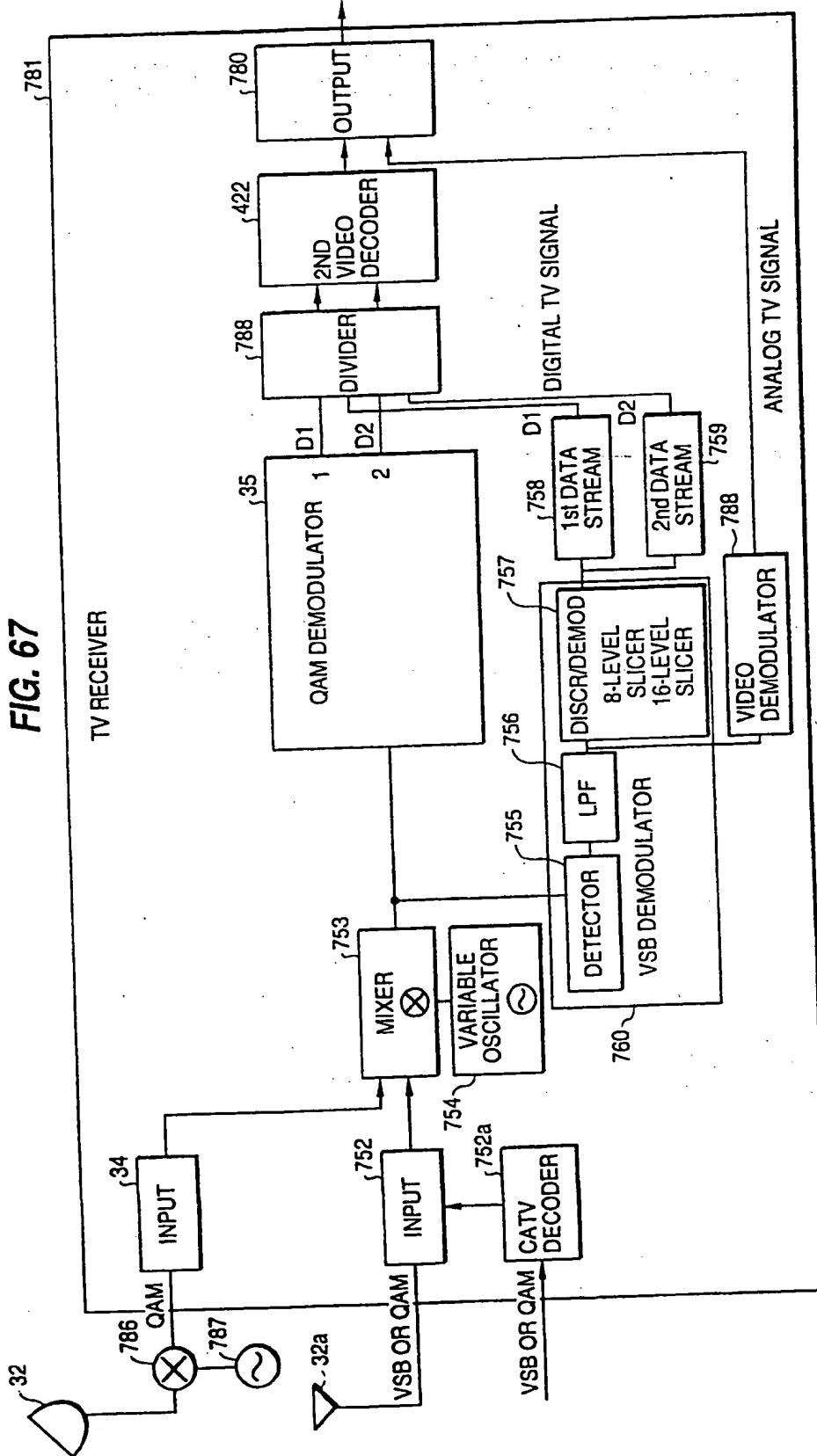


FIG. 68(c)

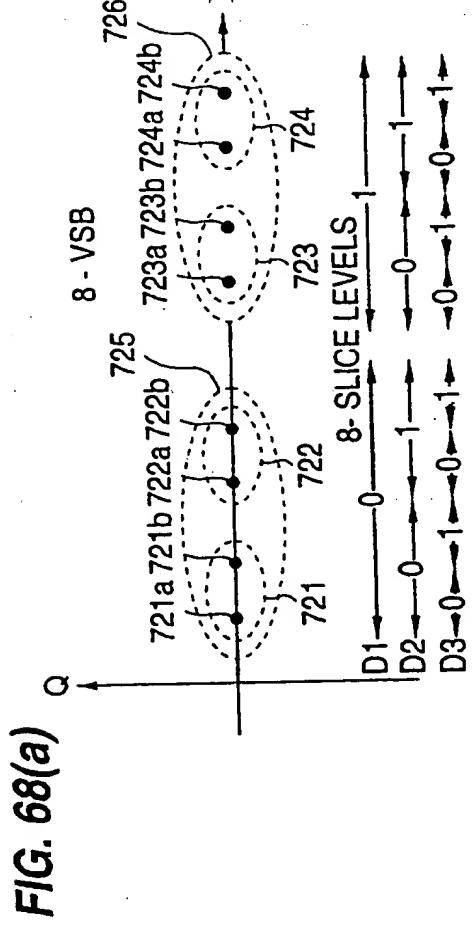
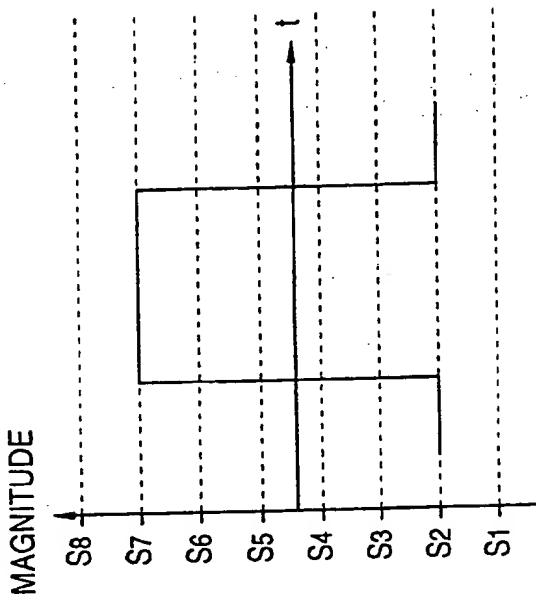


FIG. 68(b)

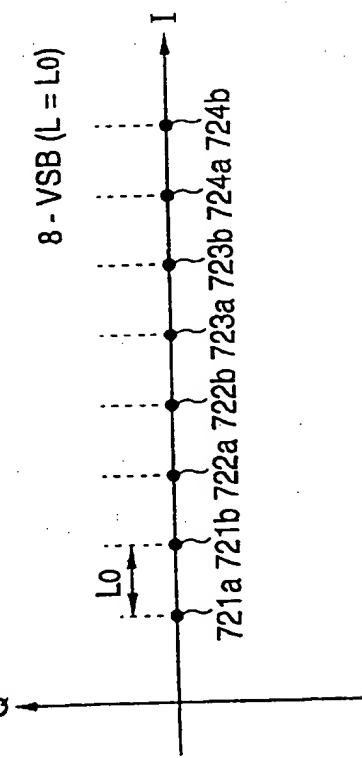


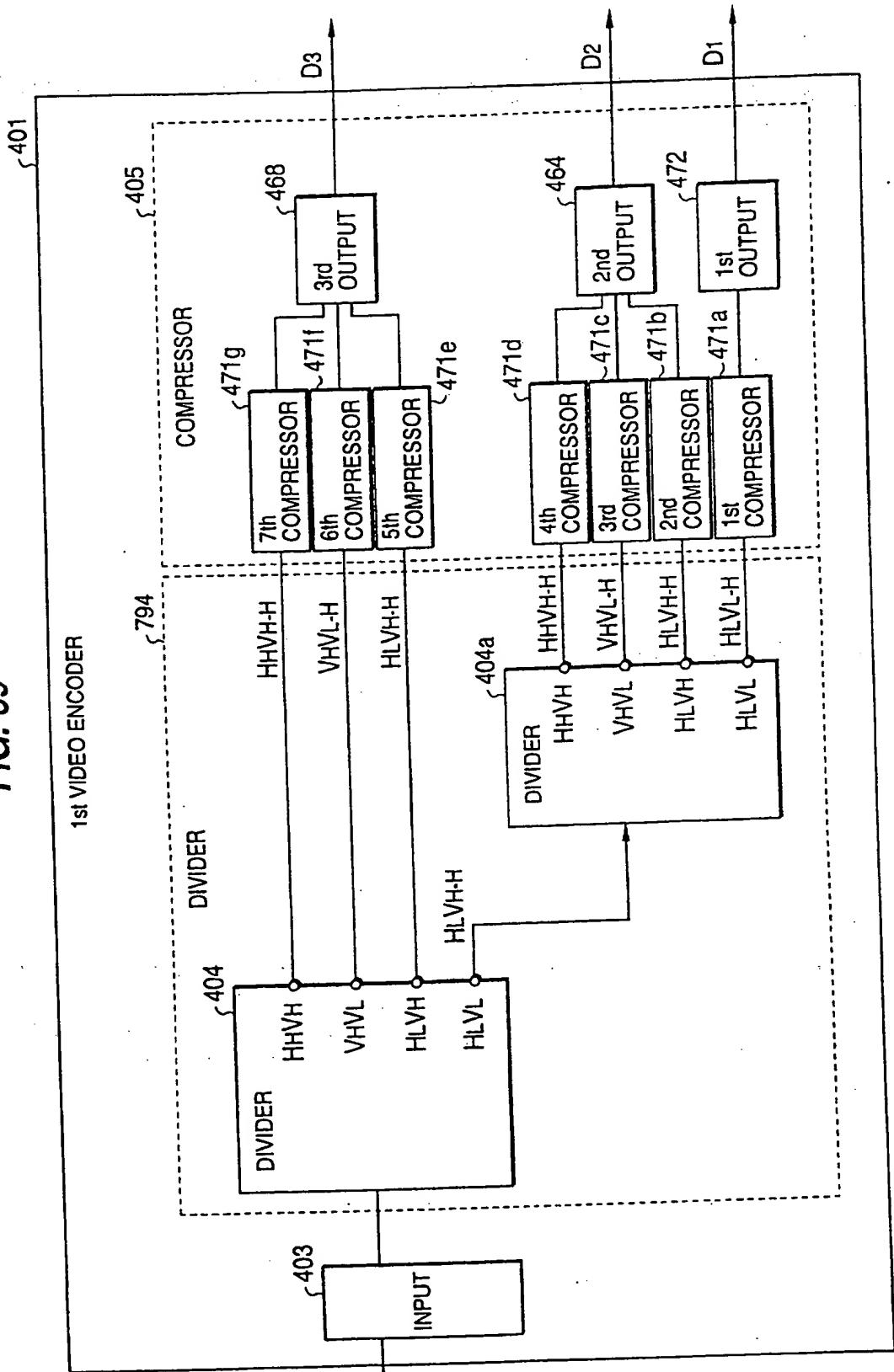
FIG. 69

FIG. 70

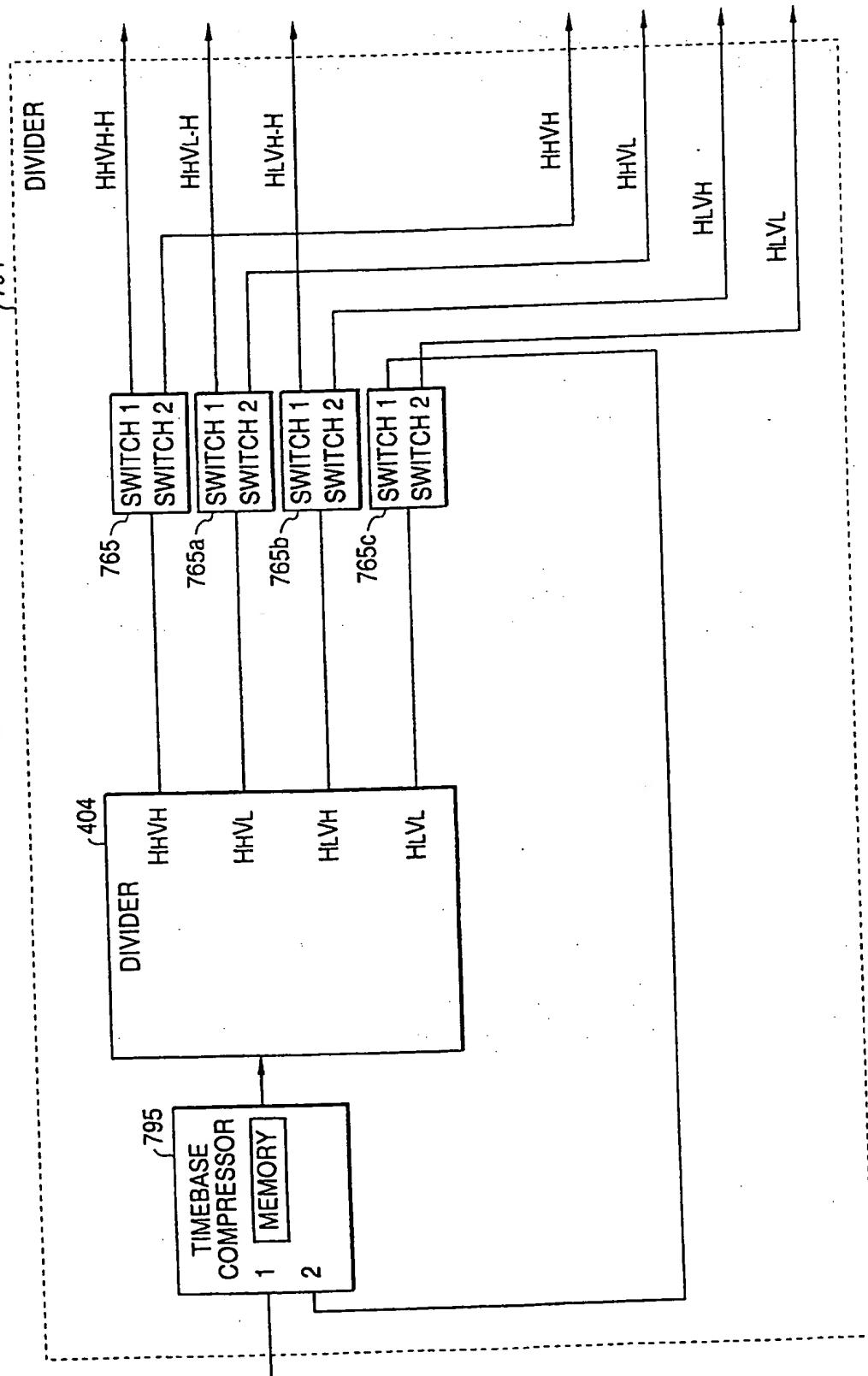


FIG. 71

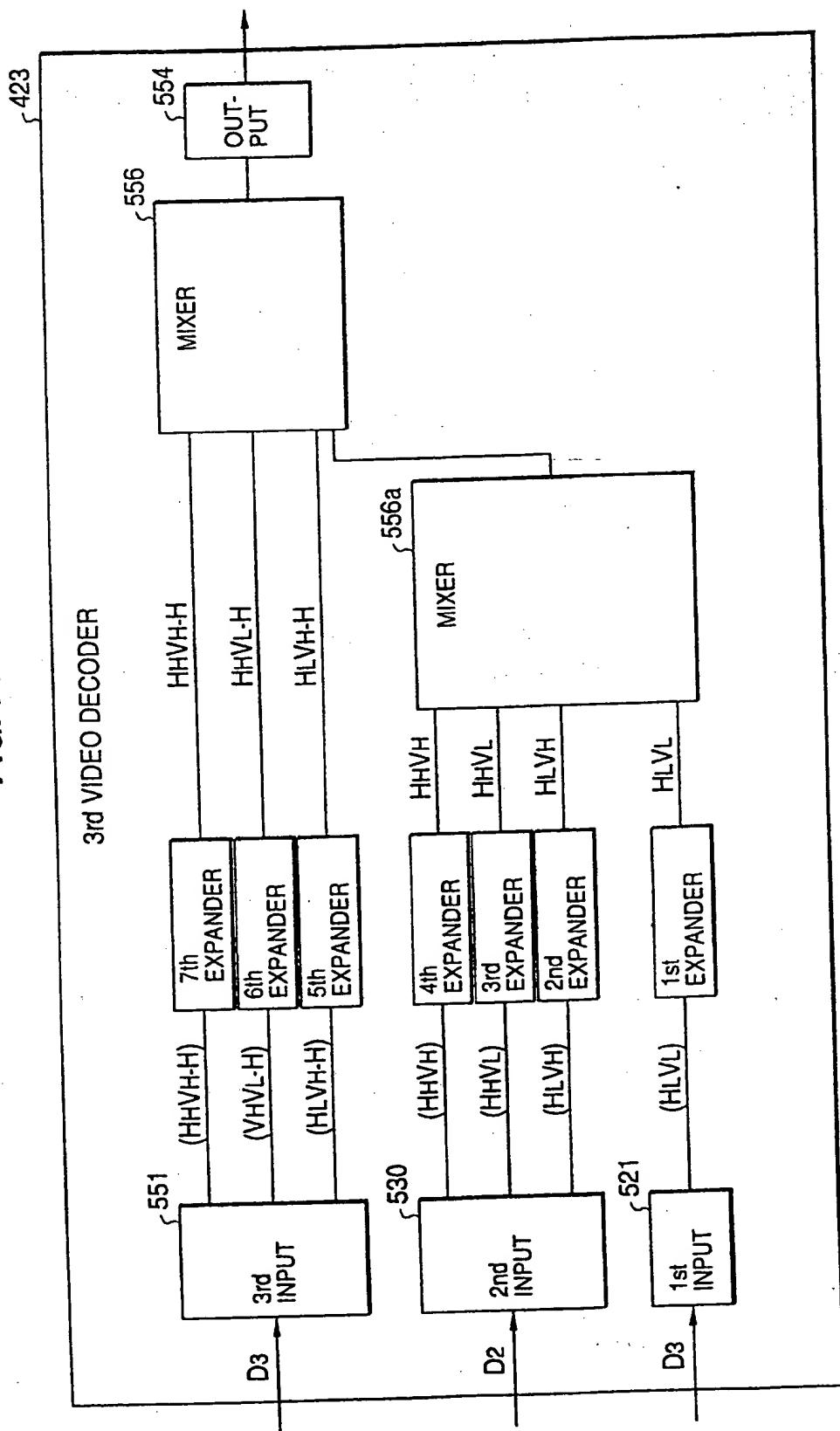


FIG. 72

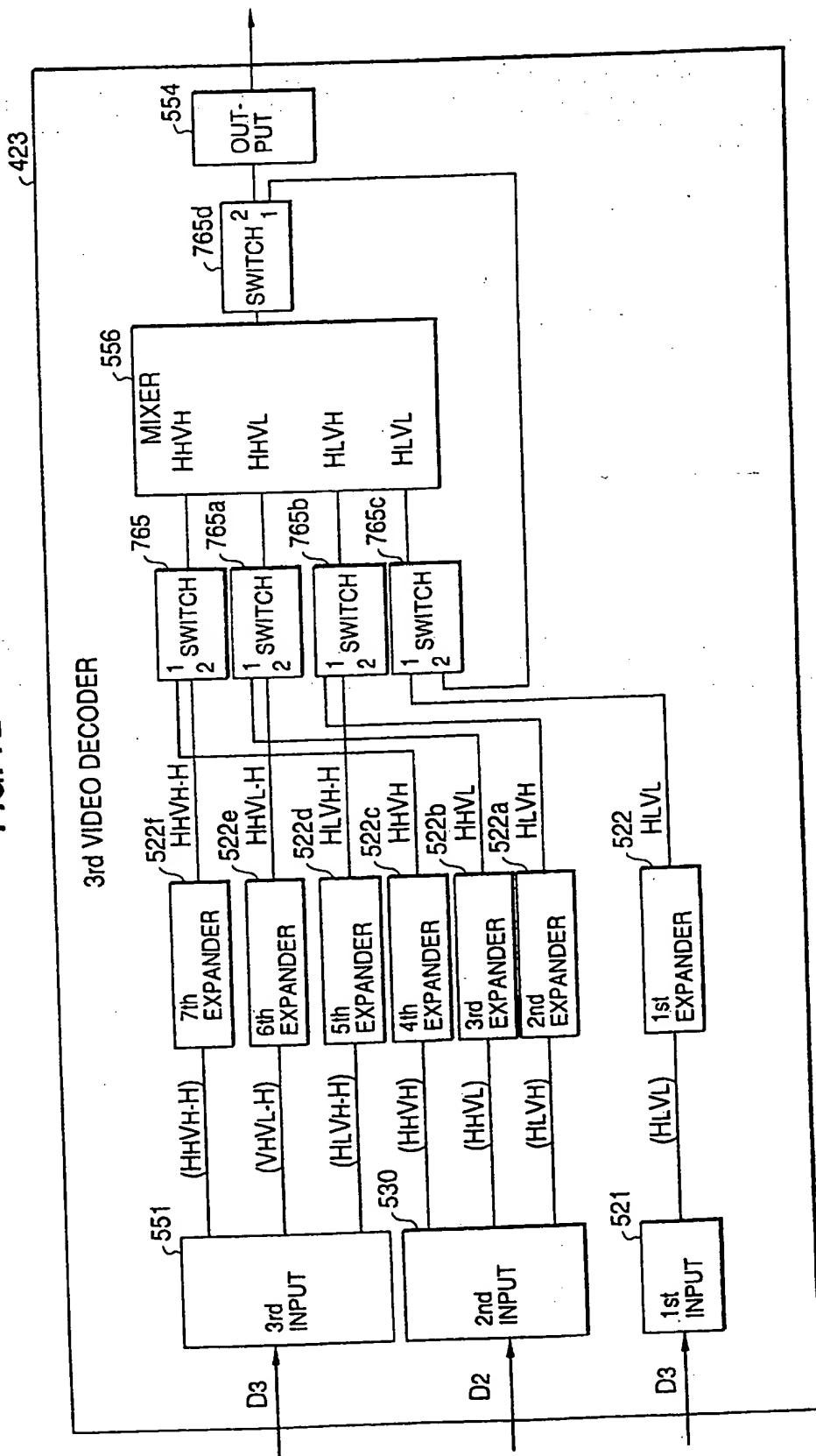


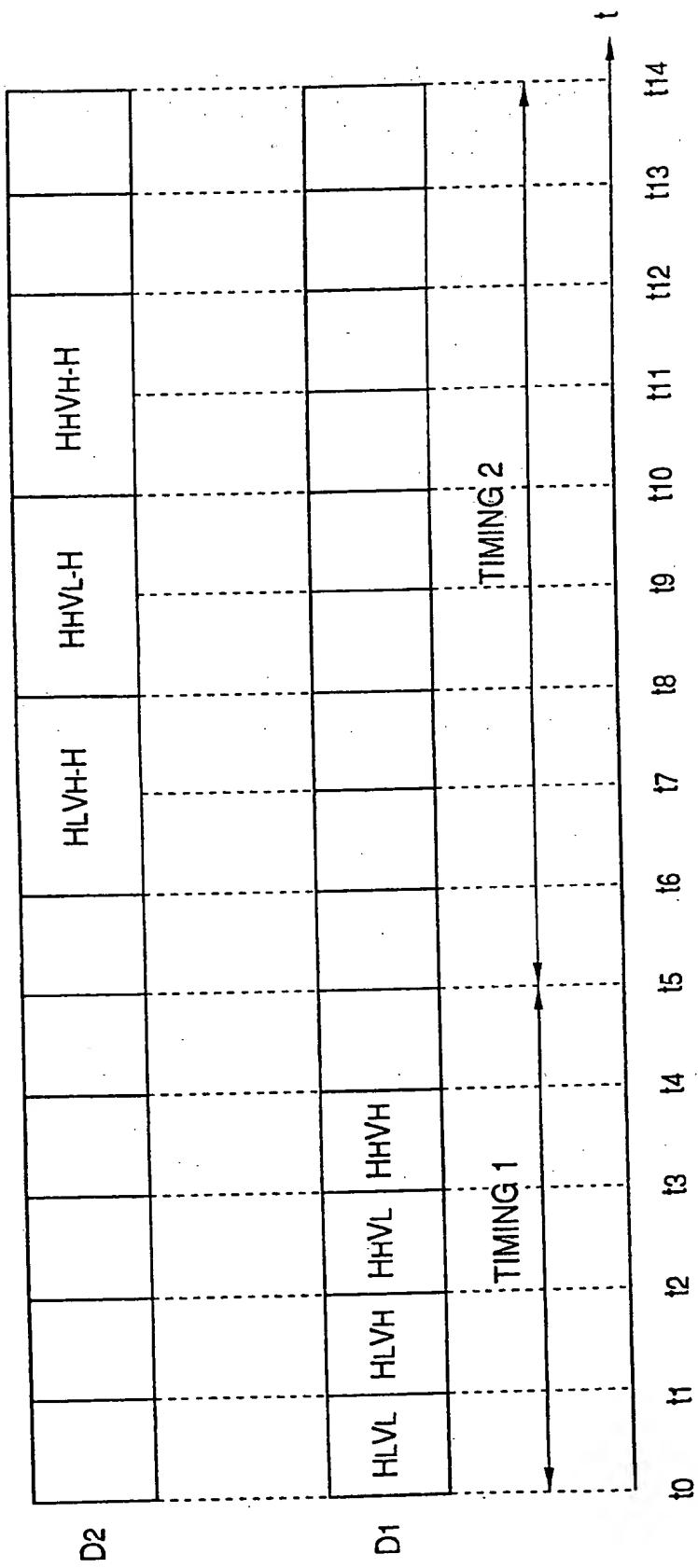
FIG. 73

FIG. 74(a)

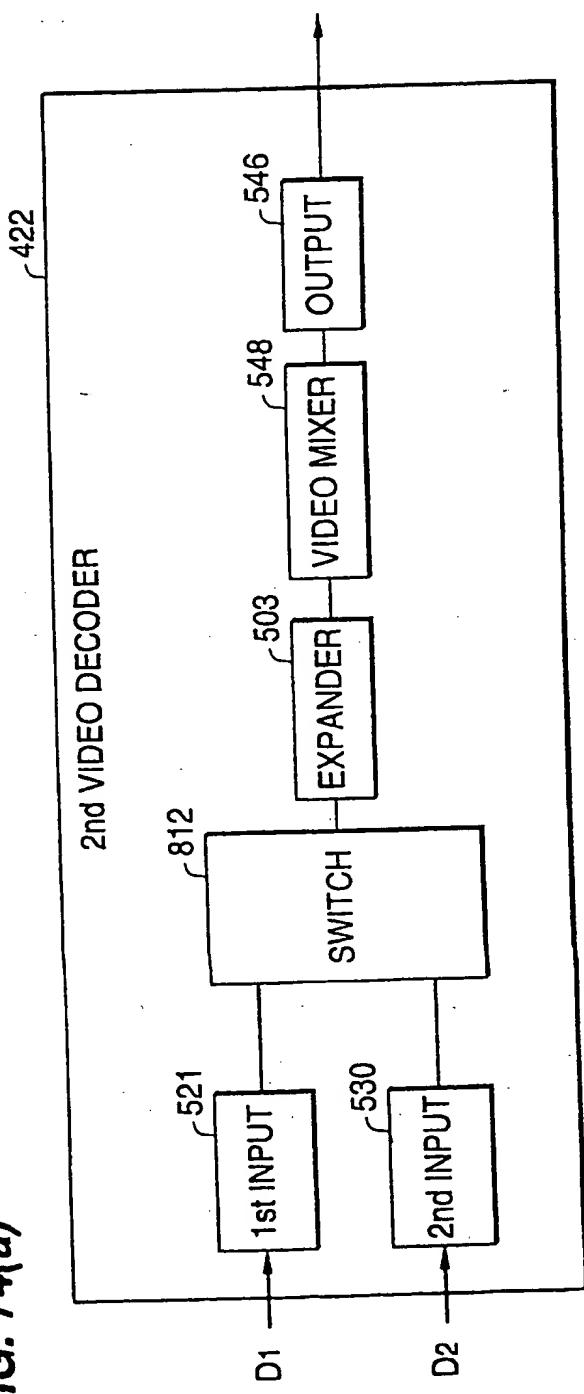


FIG. 74(b)

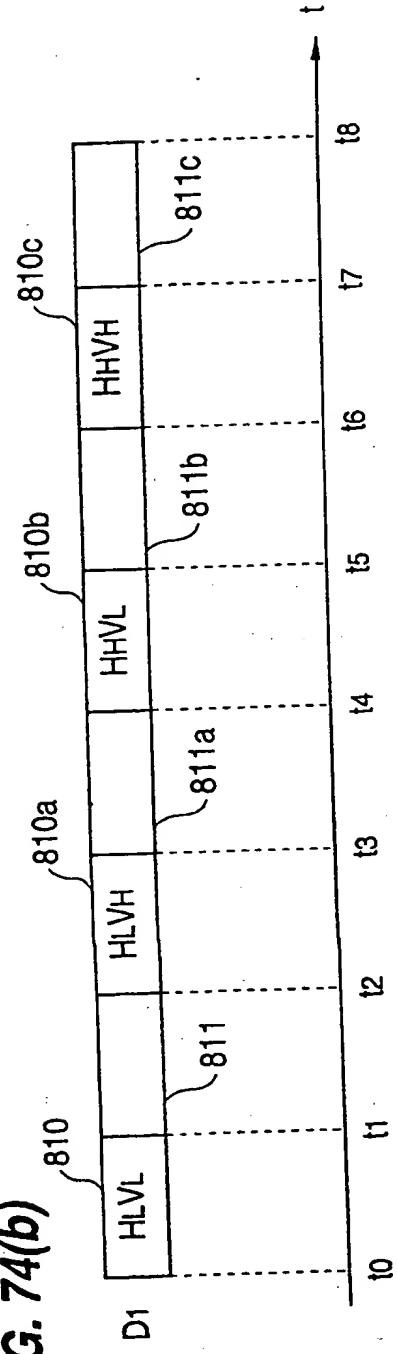


FIG. 75

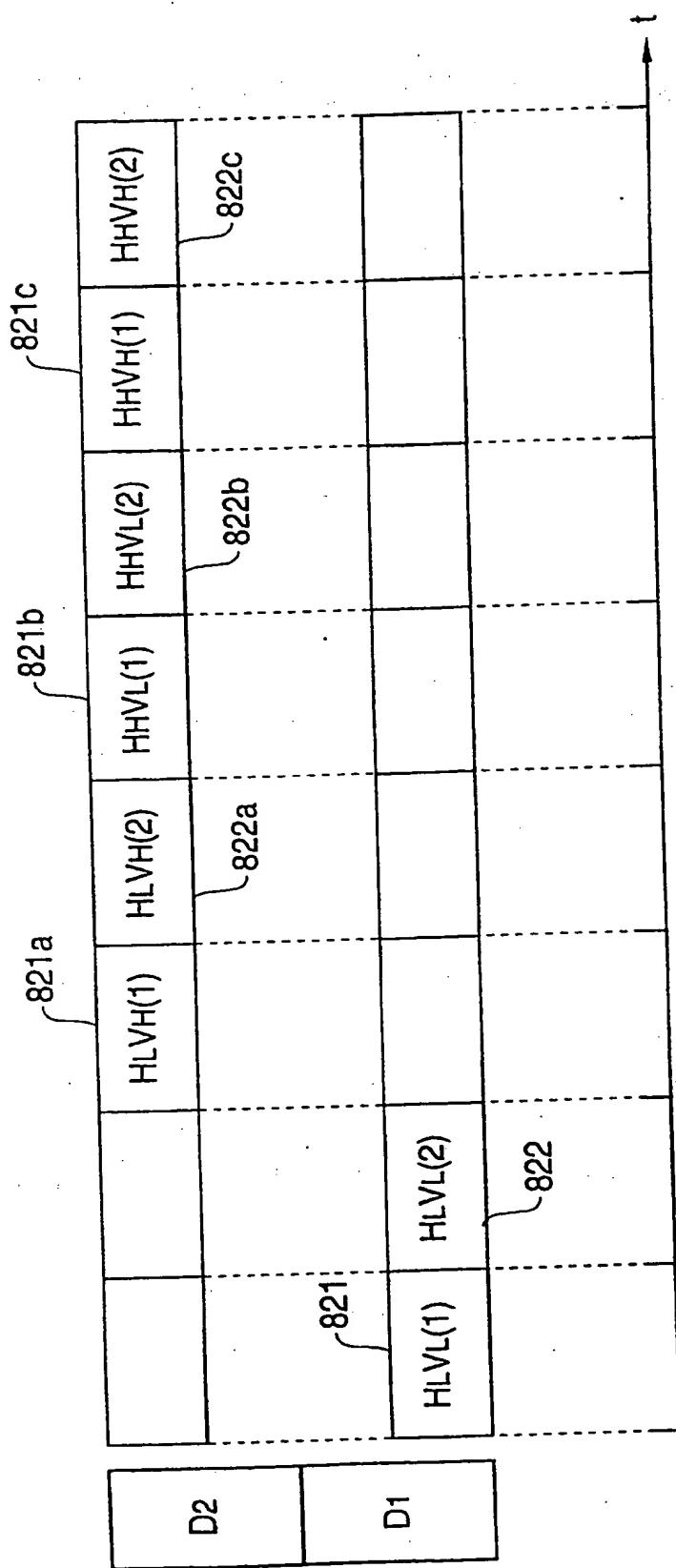


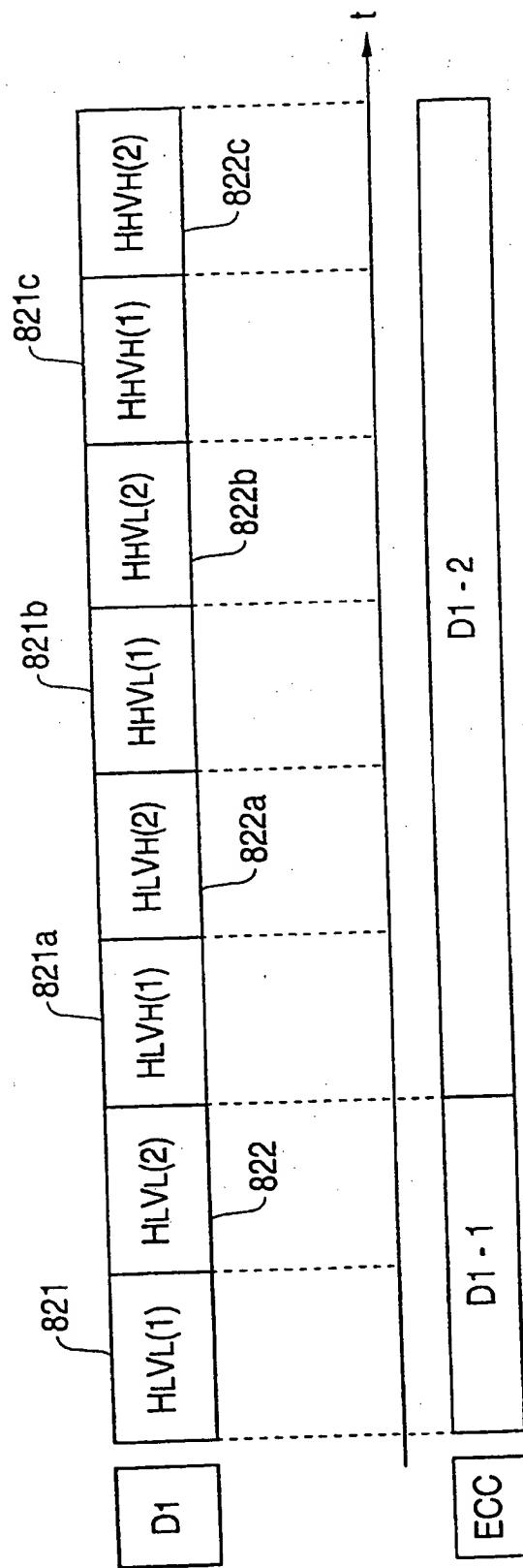
FIG. 76

FIG. 77

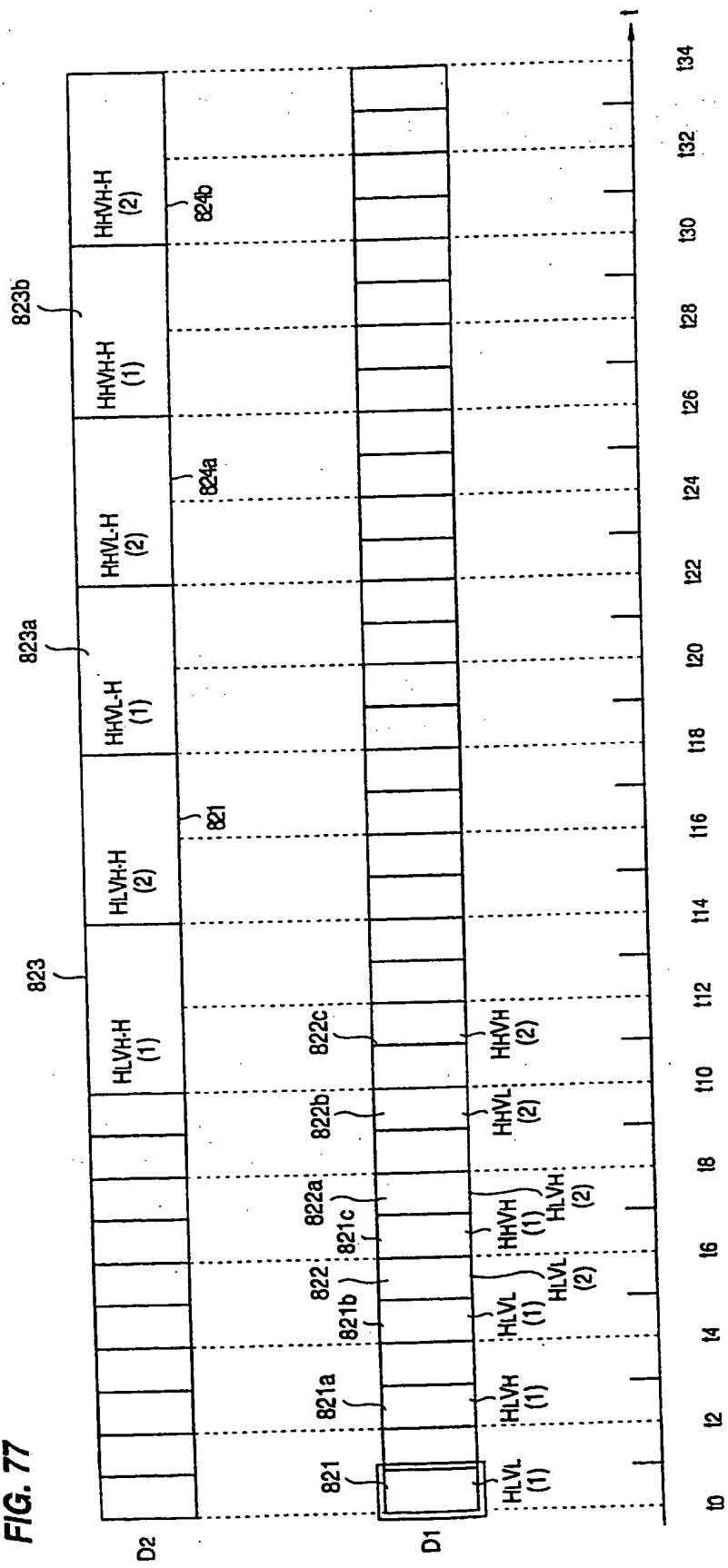


FIG. 78
3rd VIDEO ENCODER

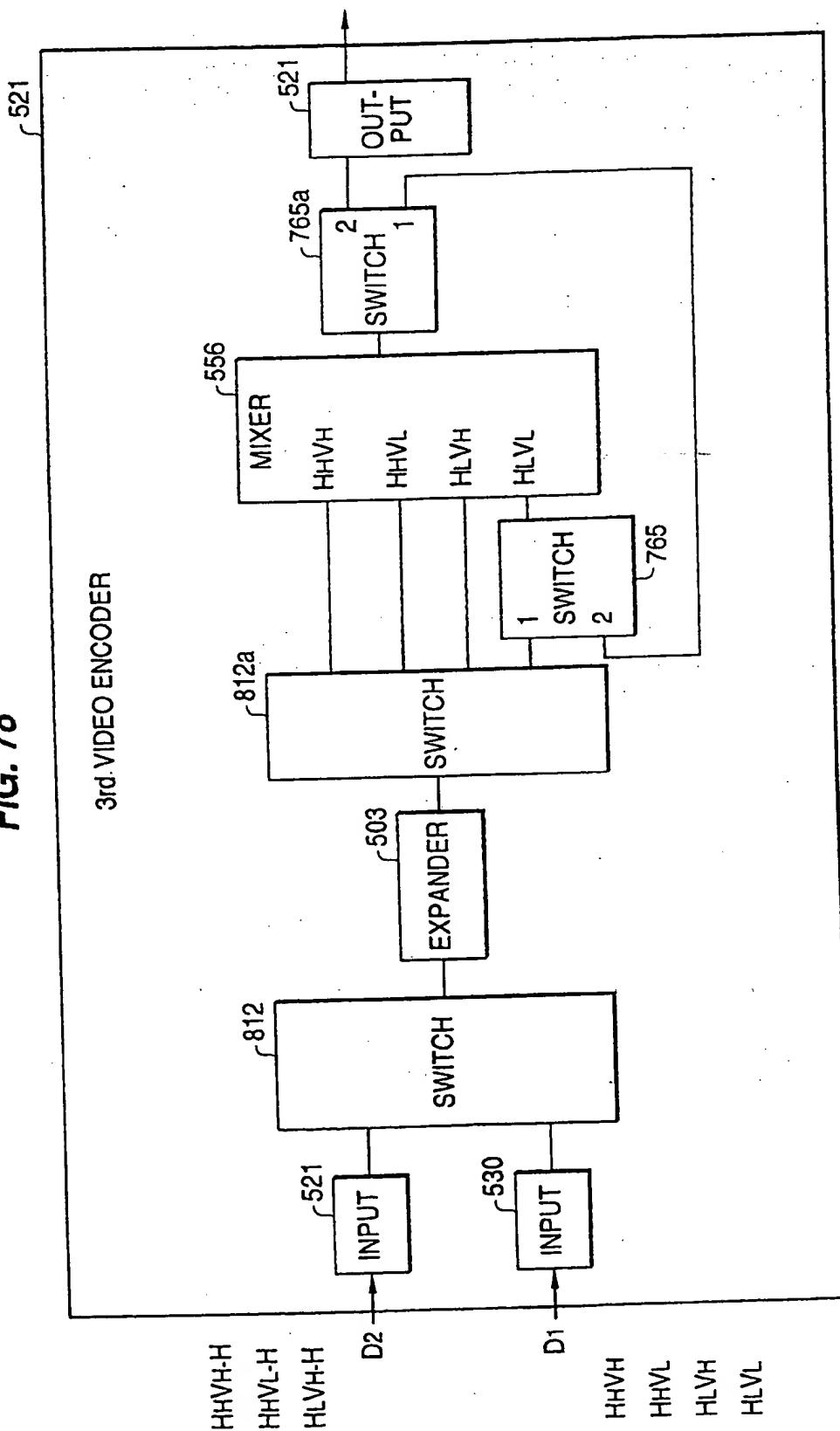


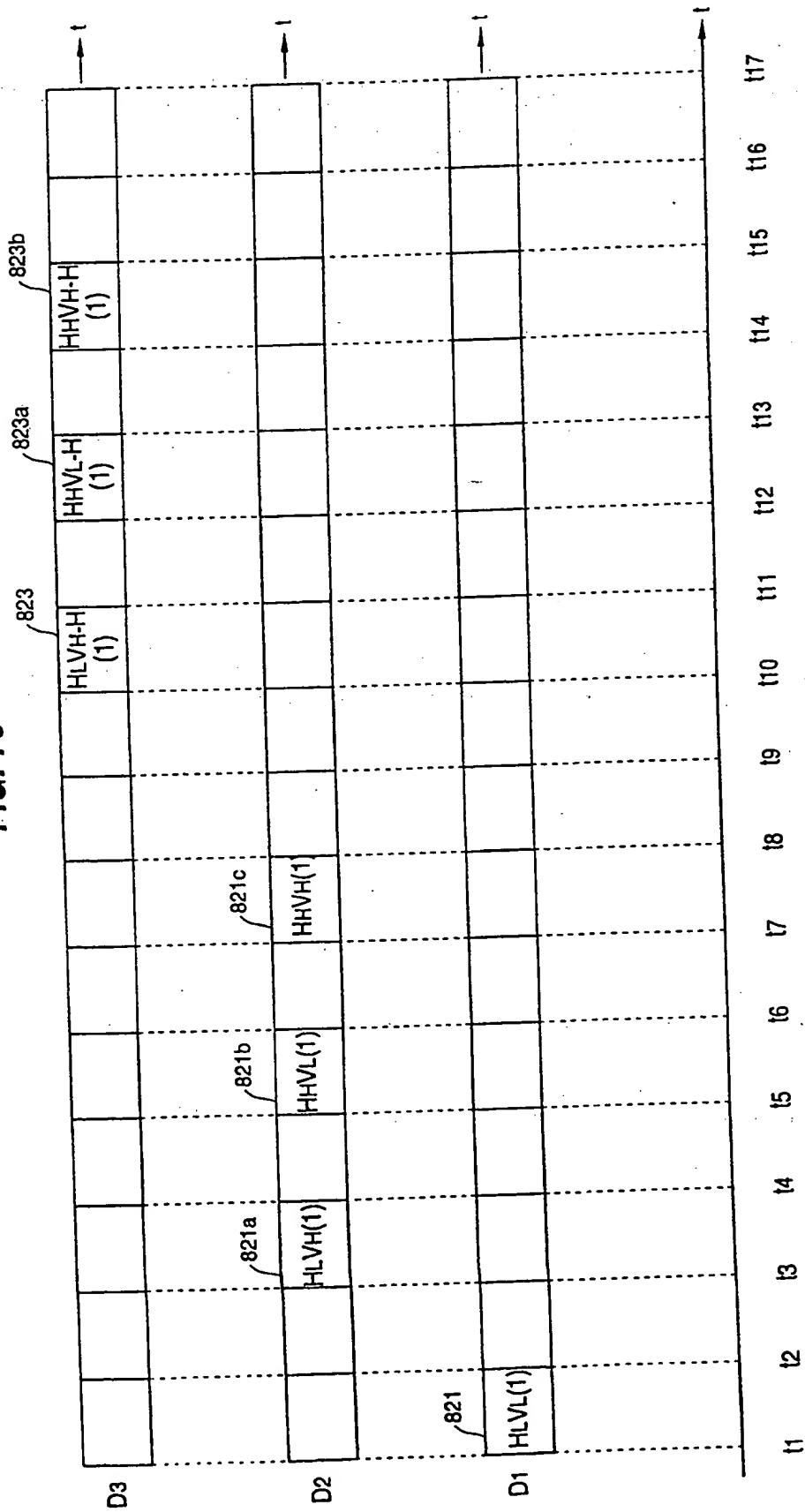
FIG. 79

FIG. 80

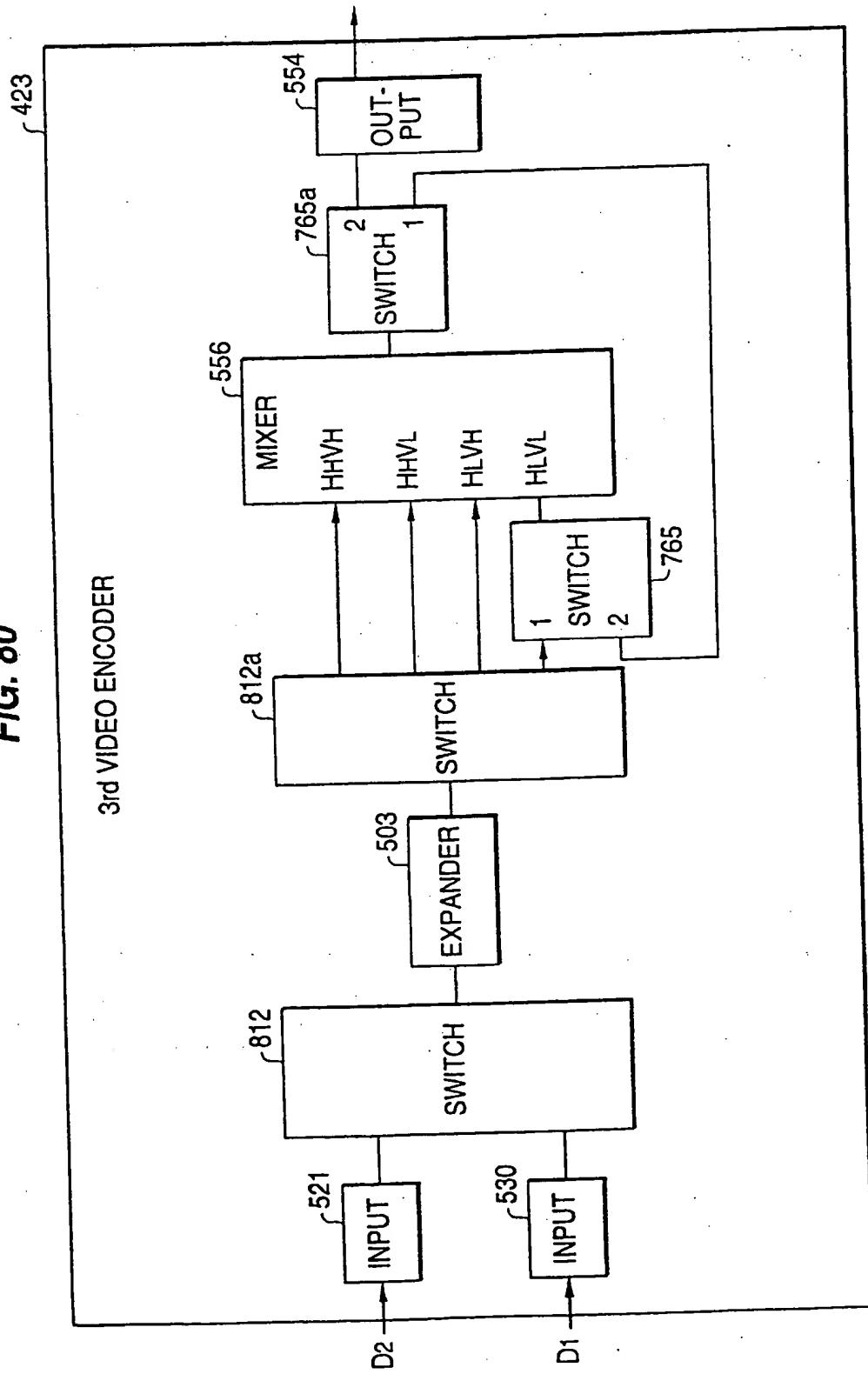


FIG. 81

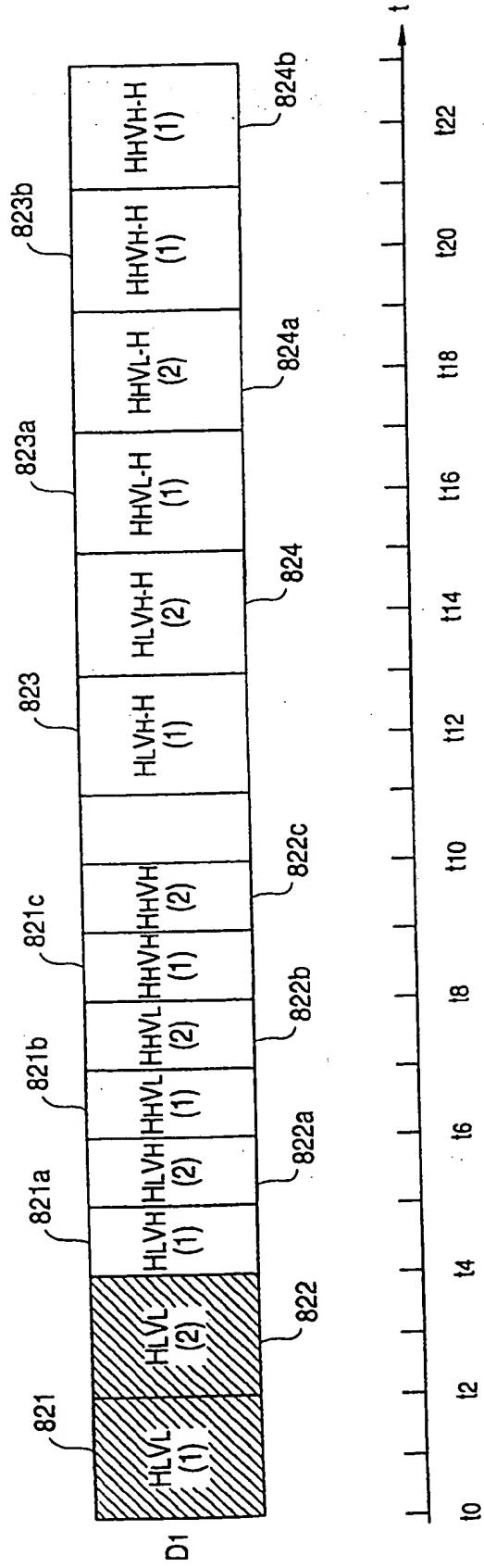


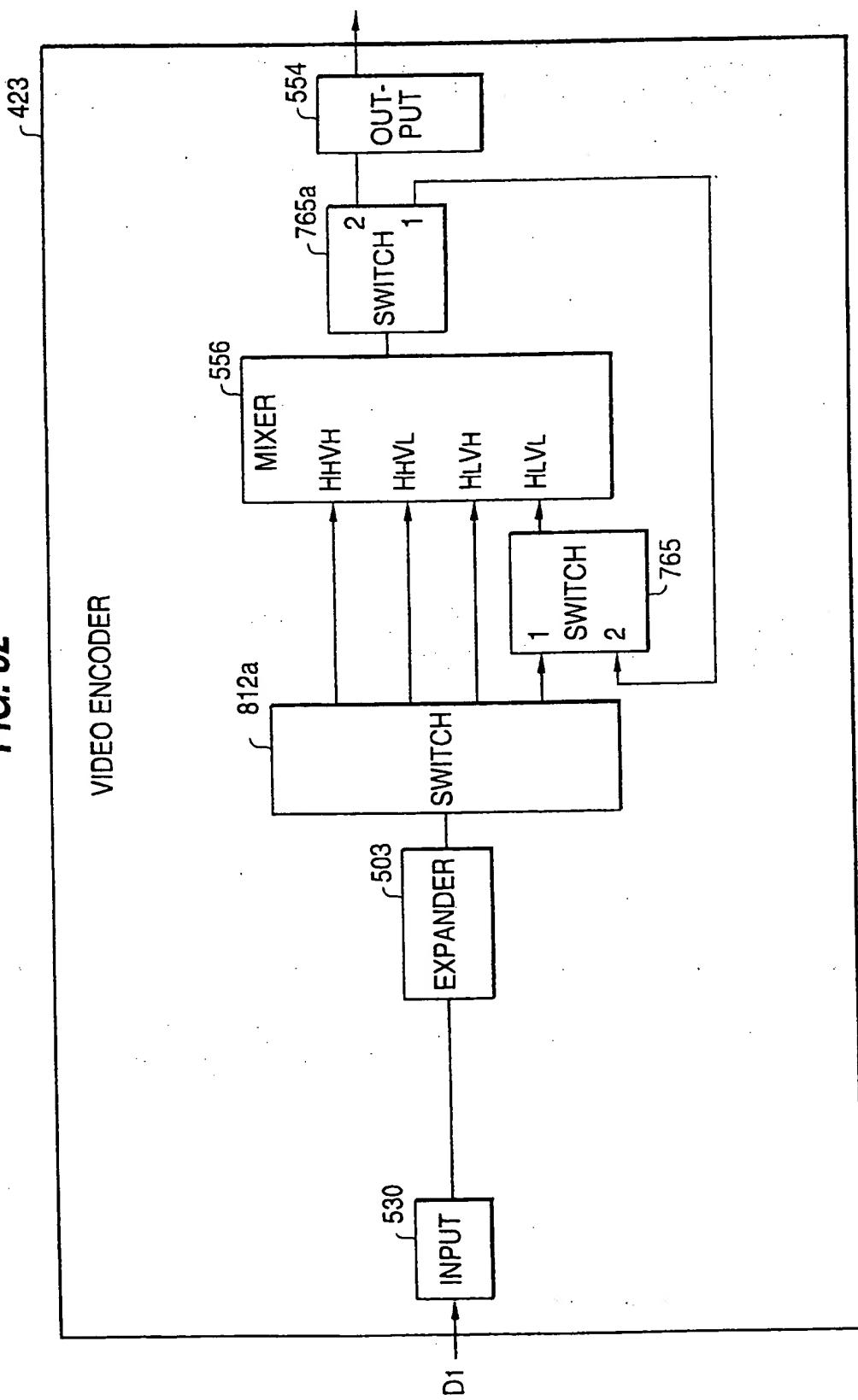
FIG. 82

FIG. 83

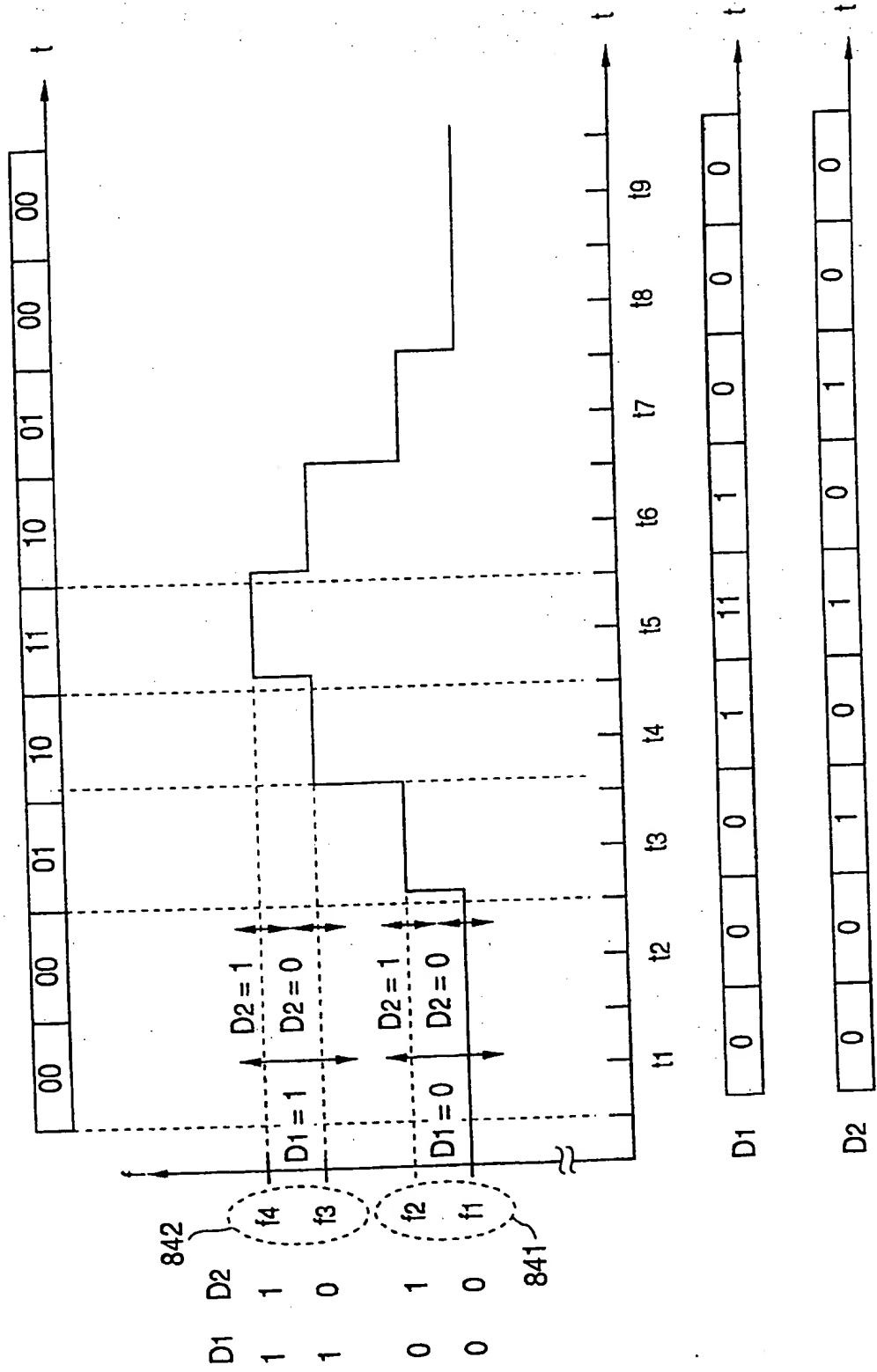


FIG. 84

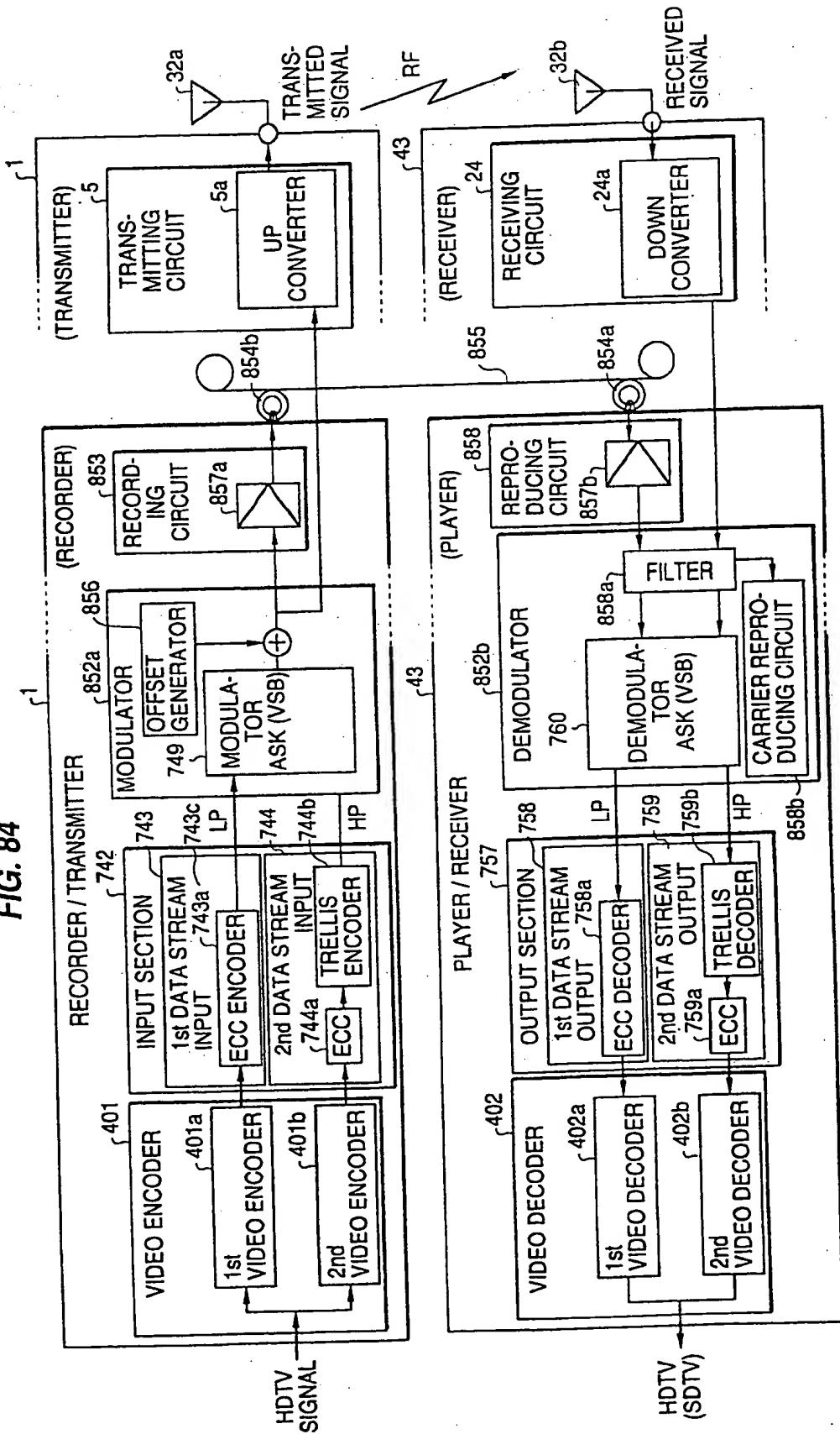


FIG. 85

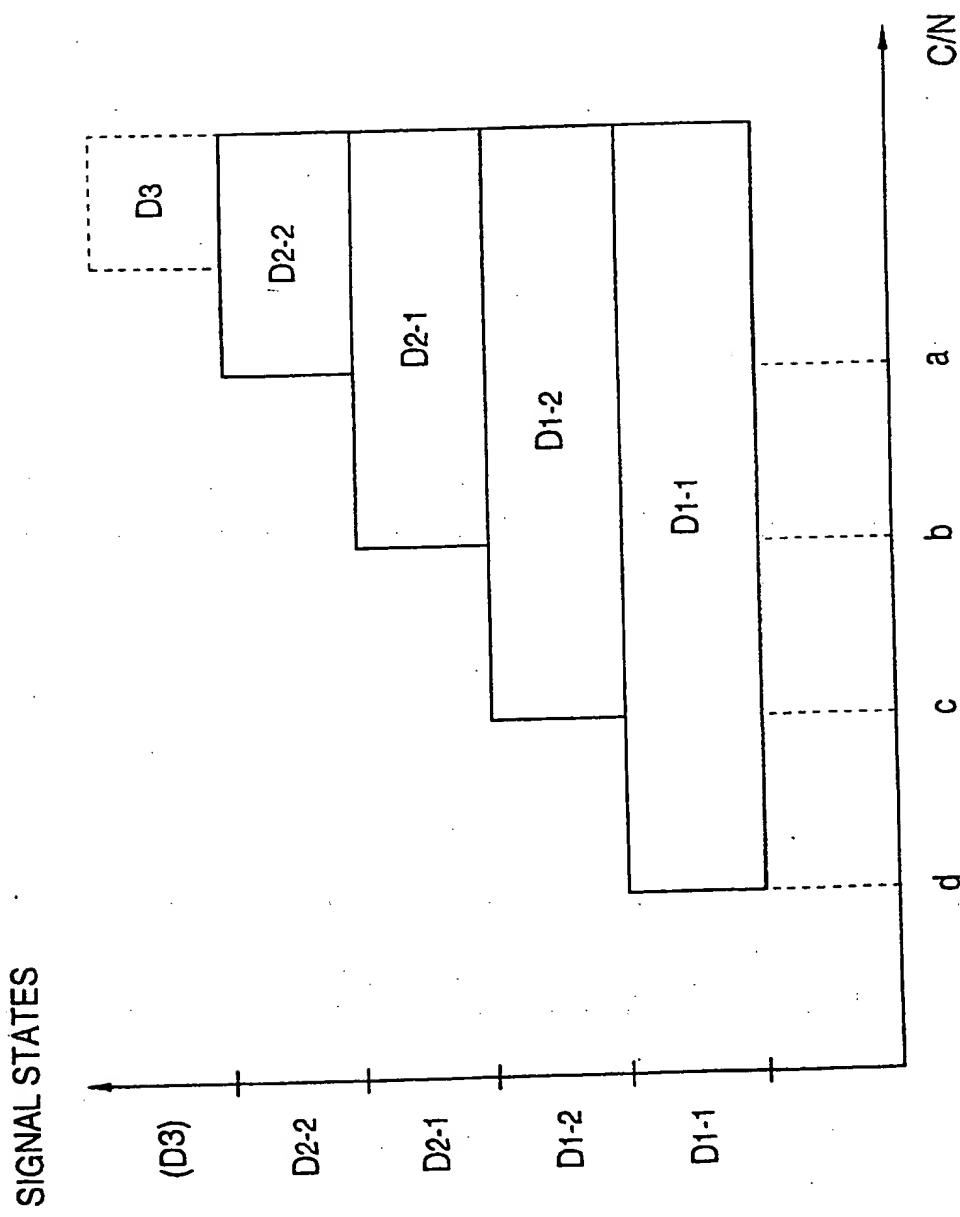


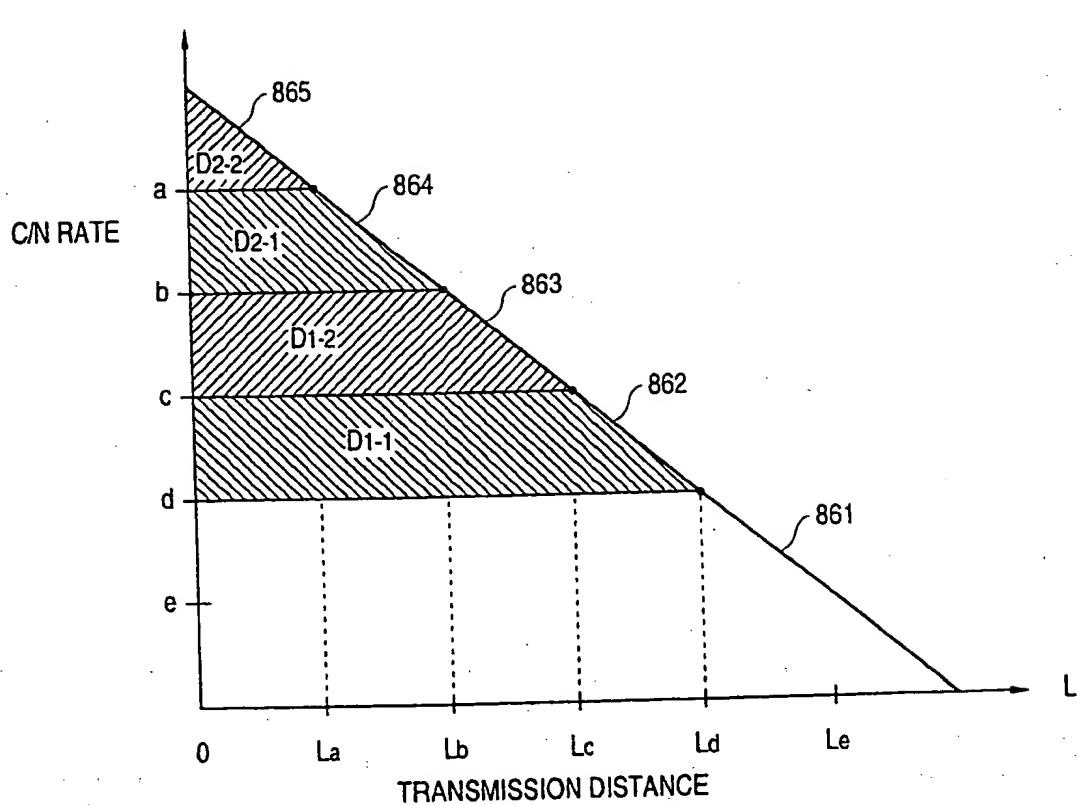
FIG. 86

FIG. 87

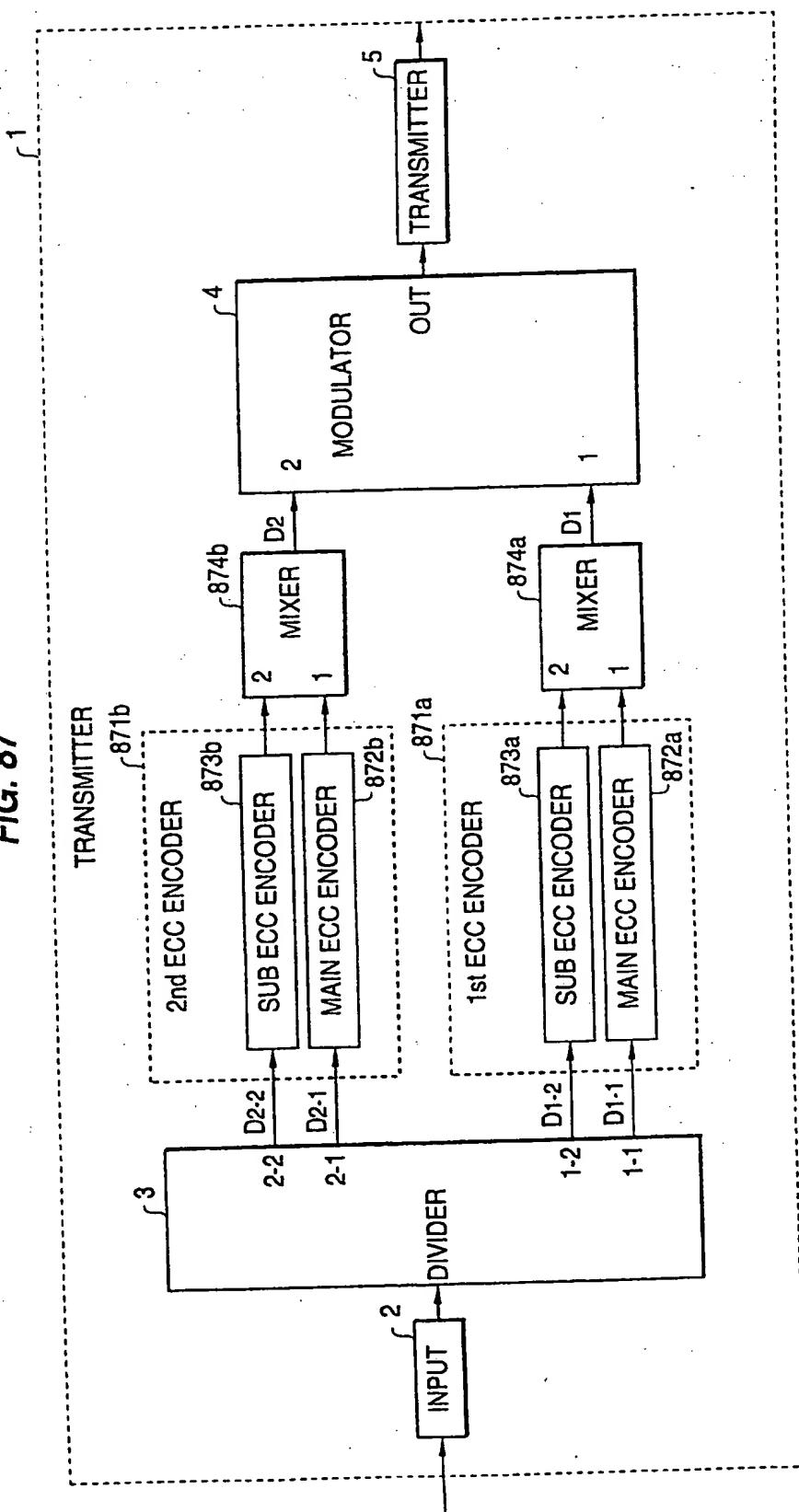


FIG. 88

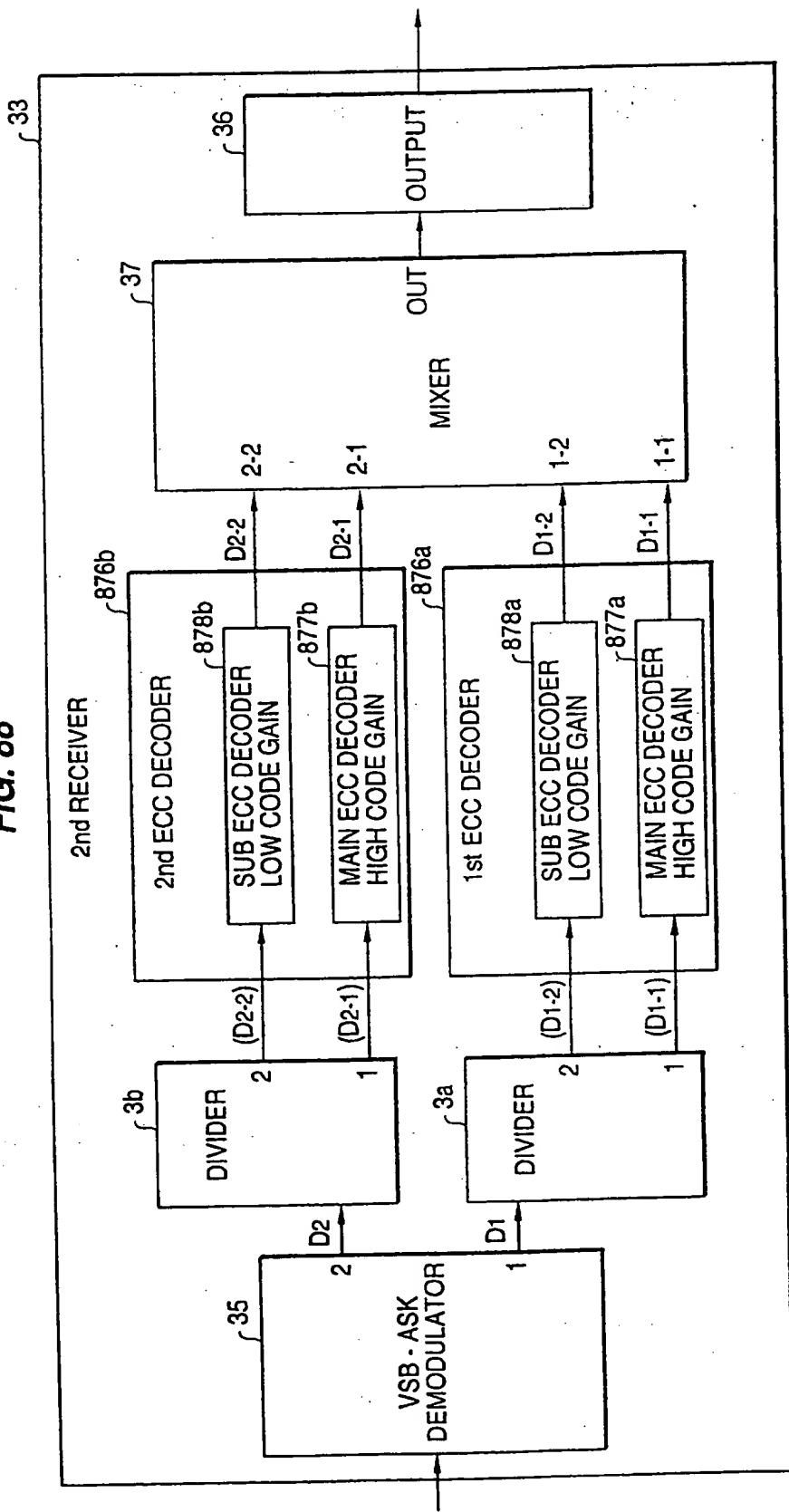


FIG. 89

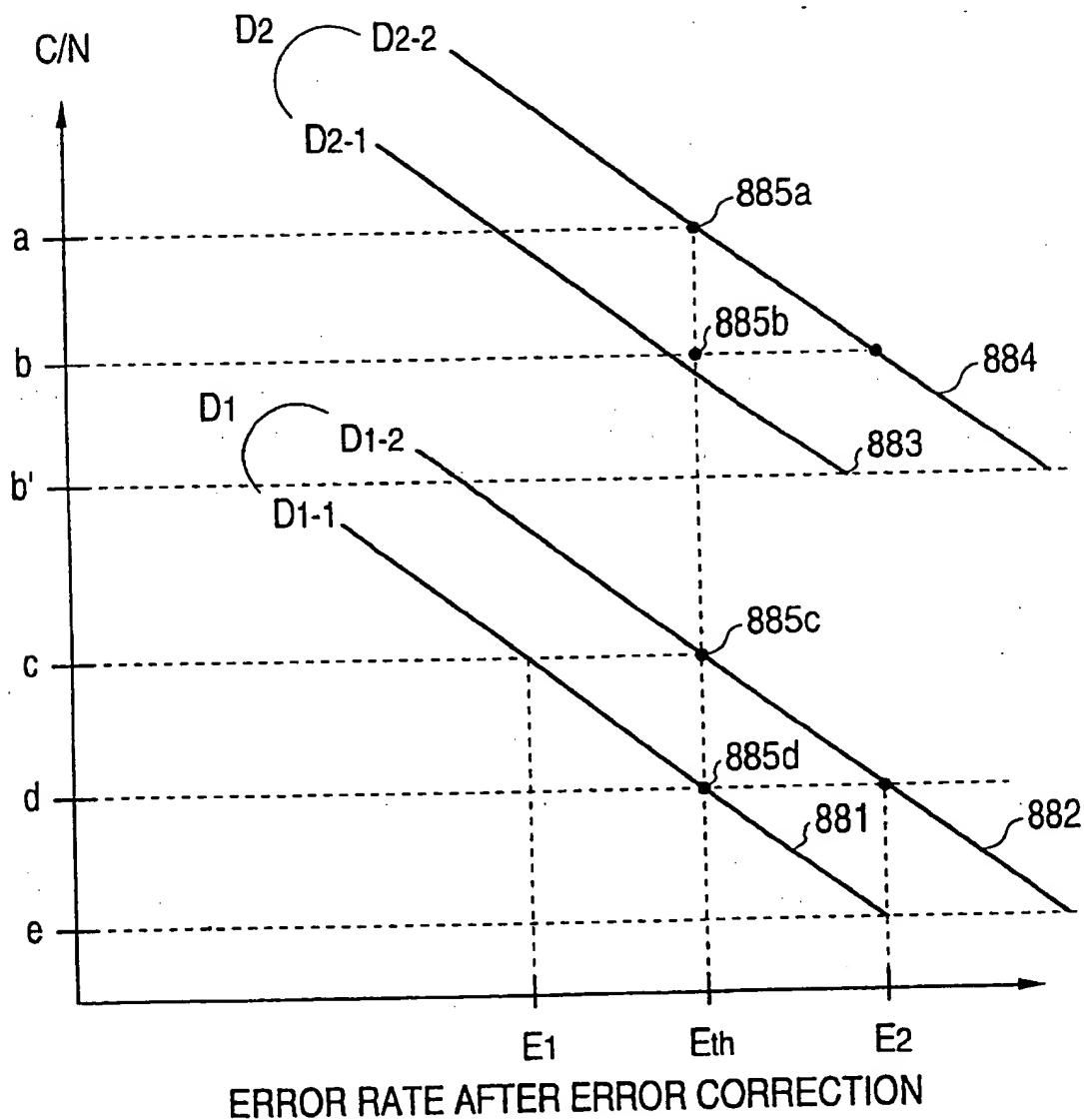


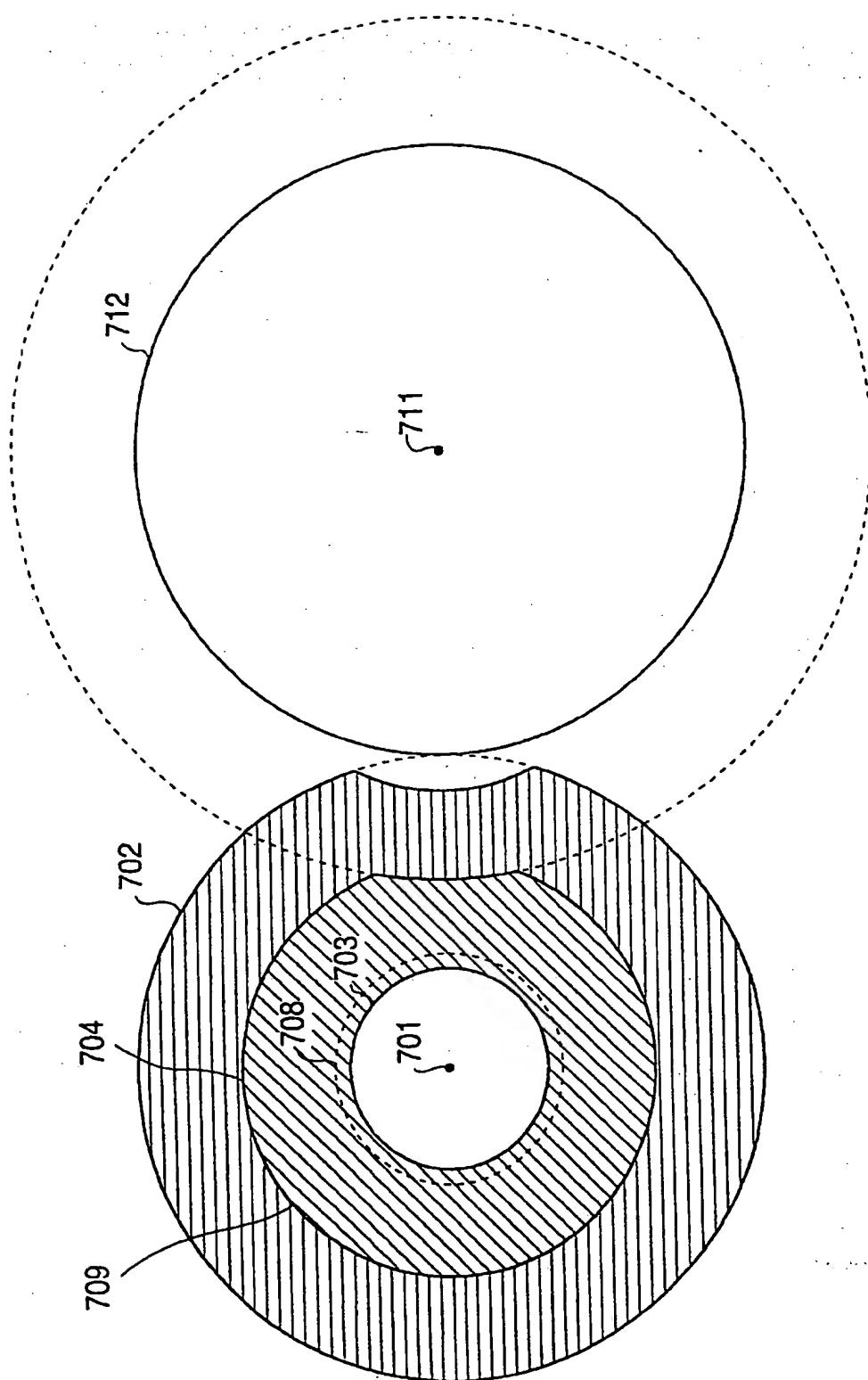
FIG. 90

FIG. 91

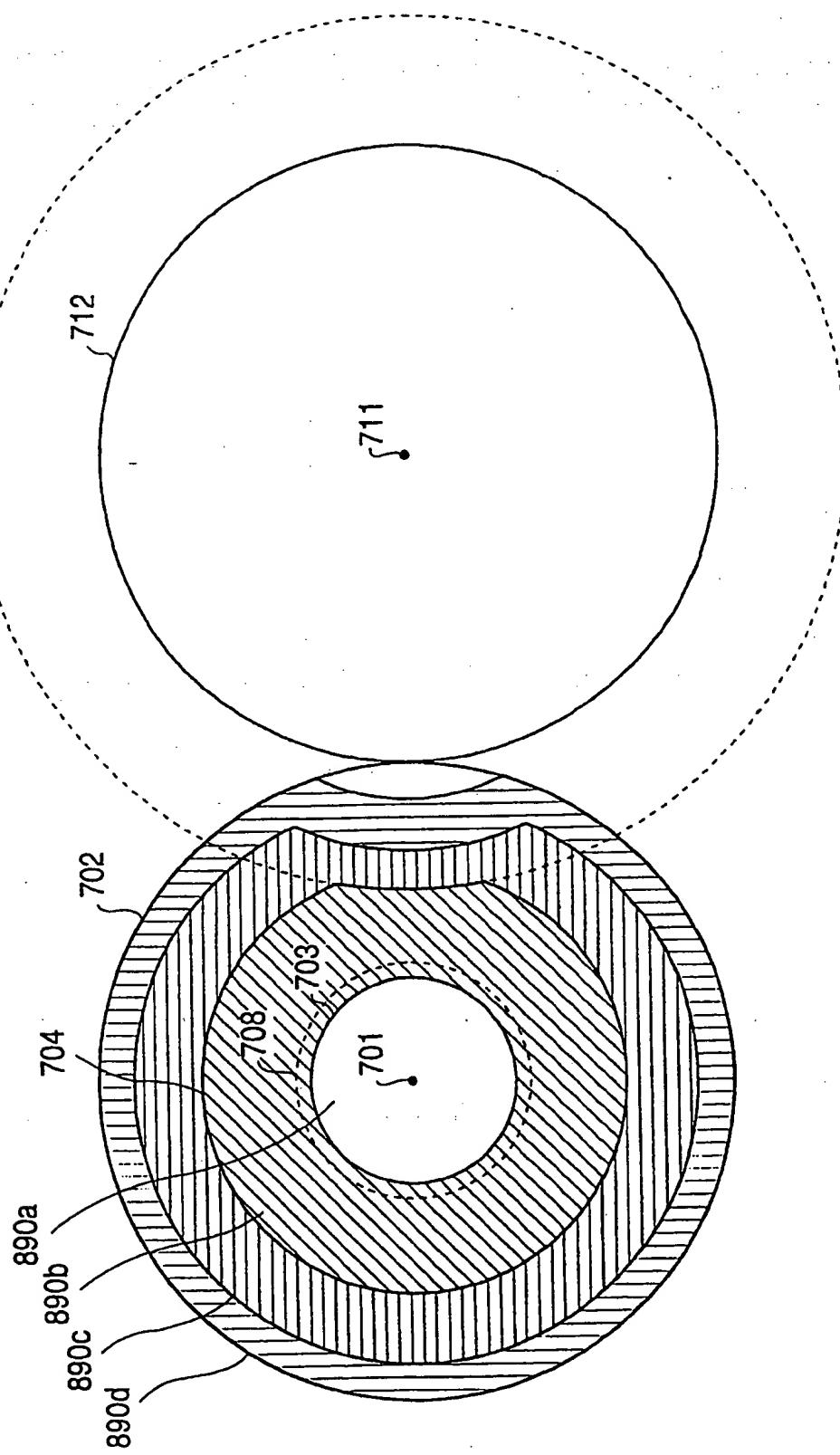


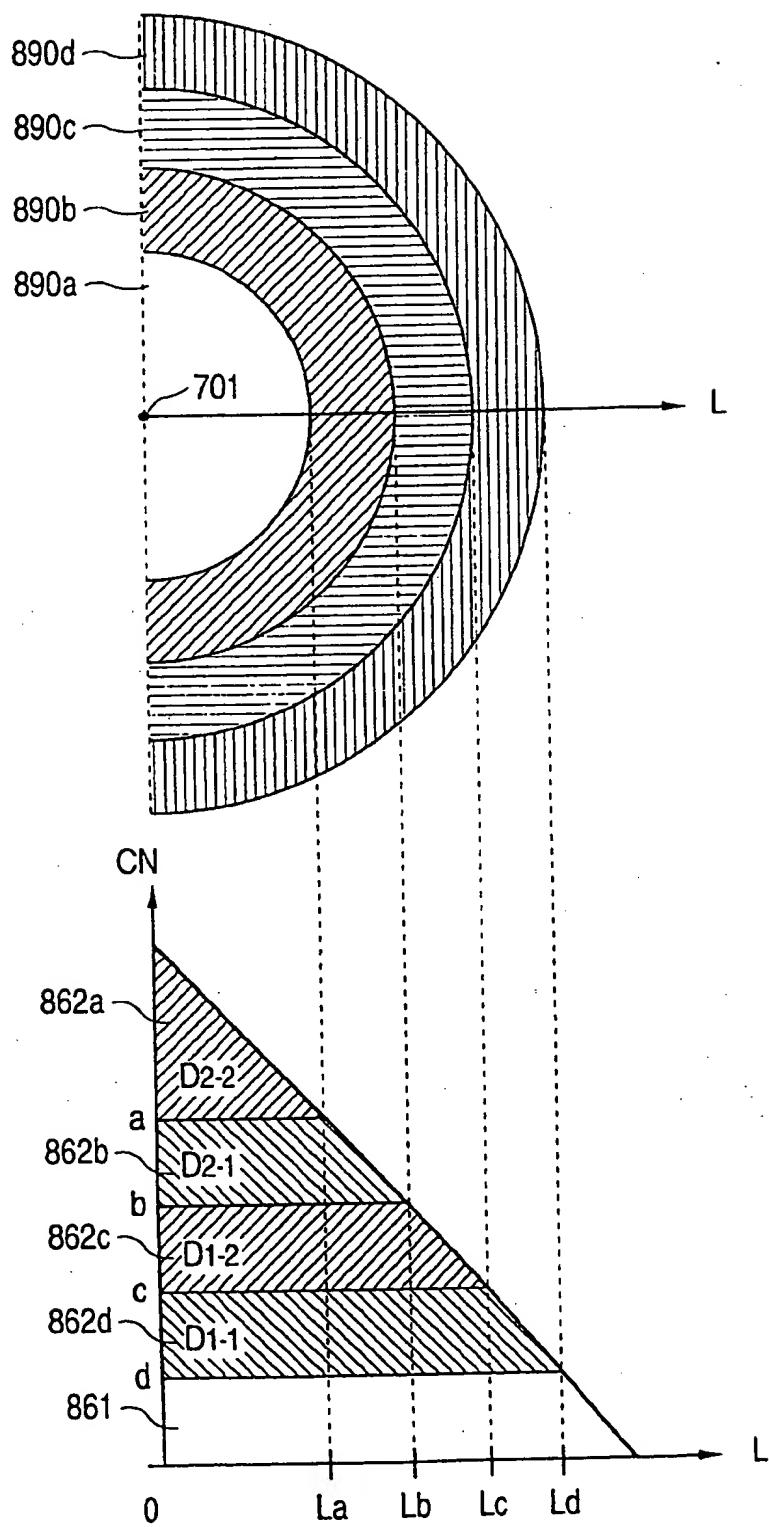
FIG. 92

FIG. 93

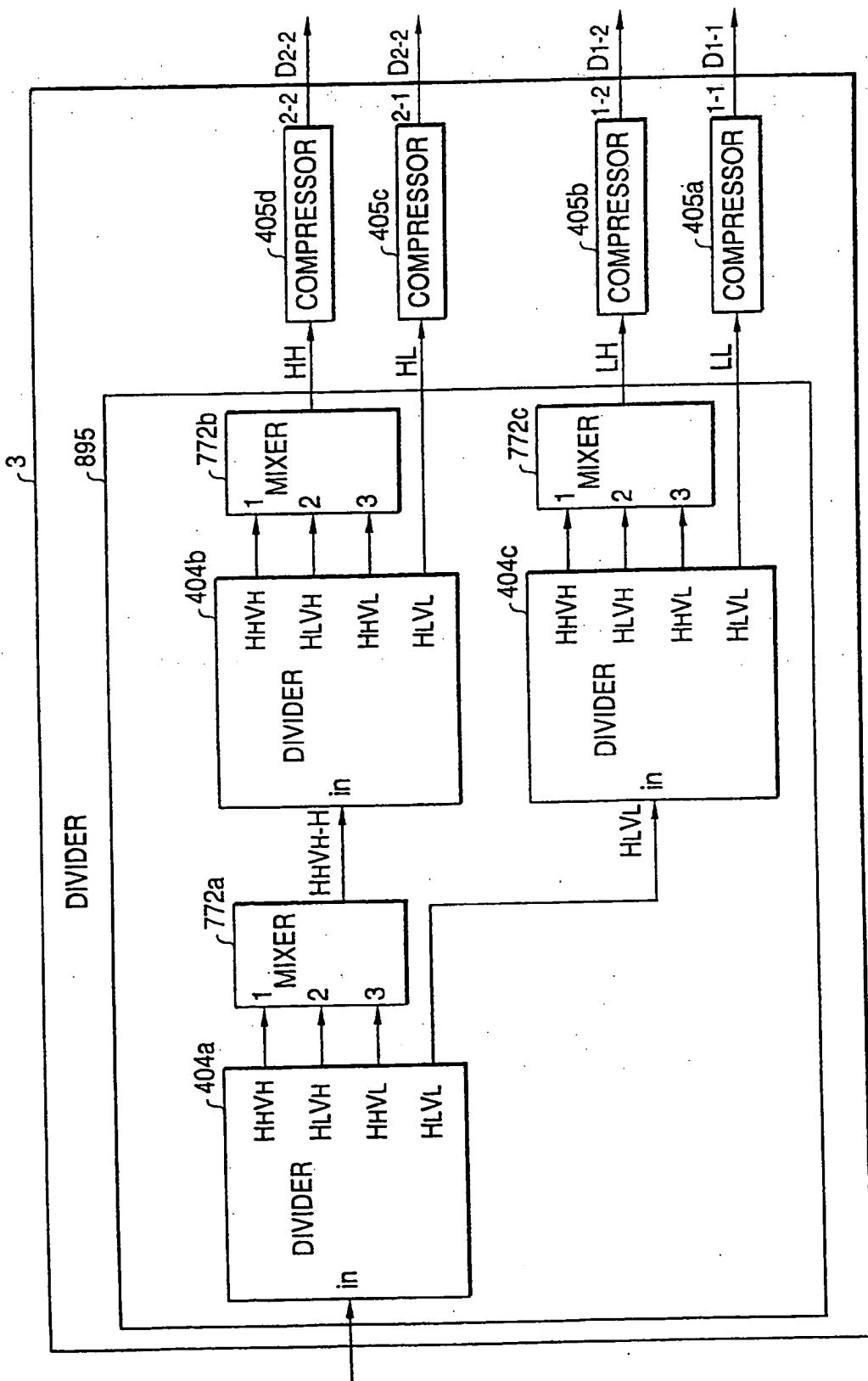


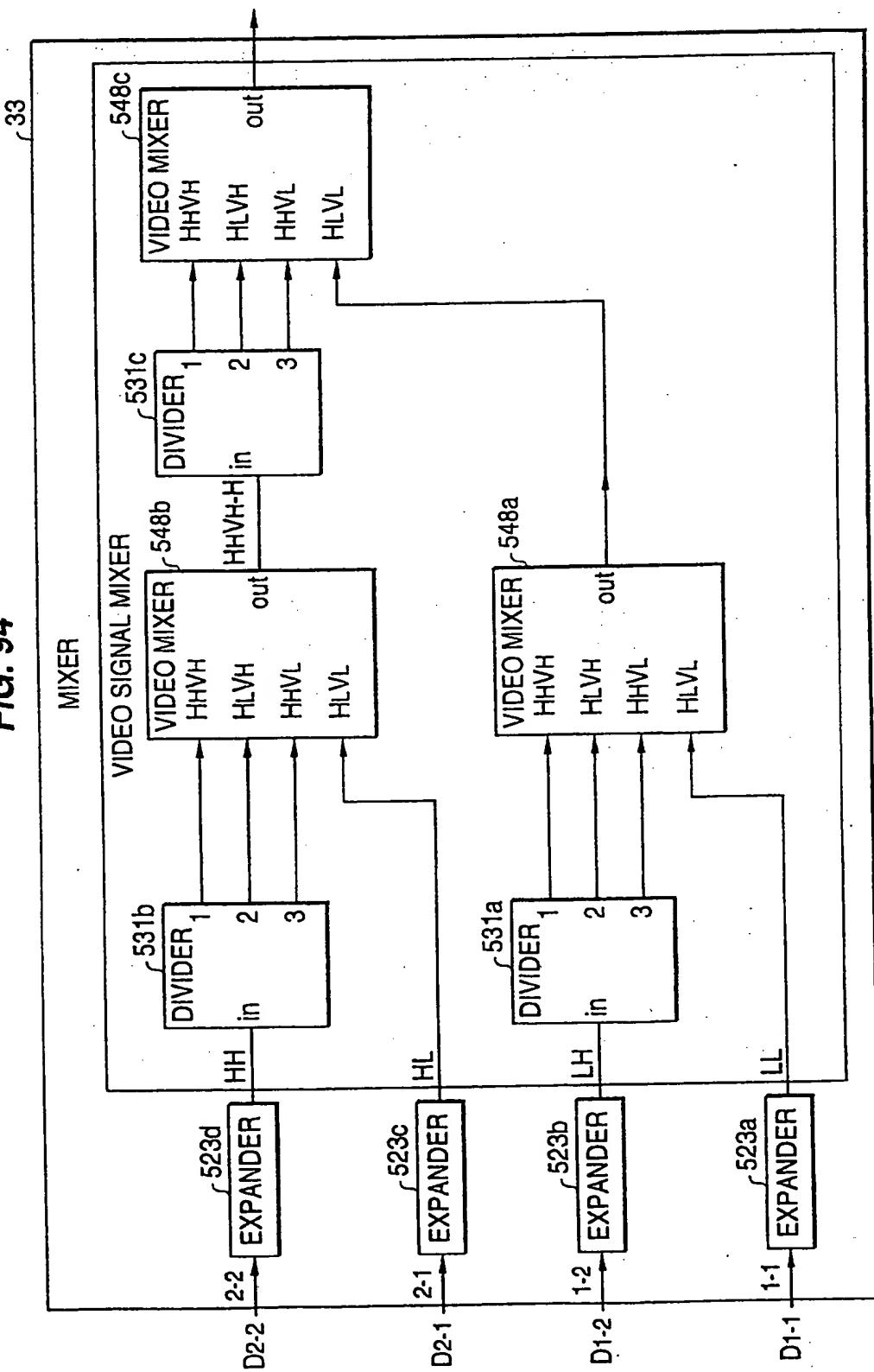
FIG. 94

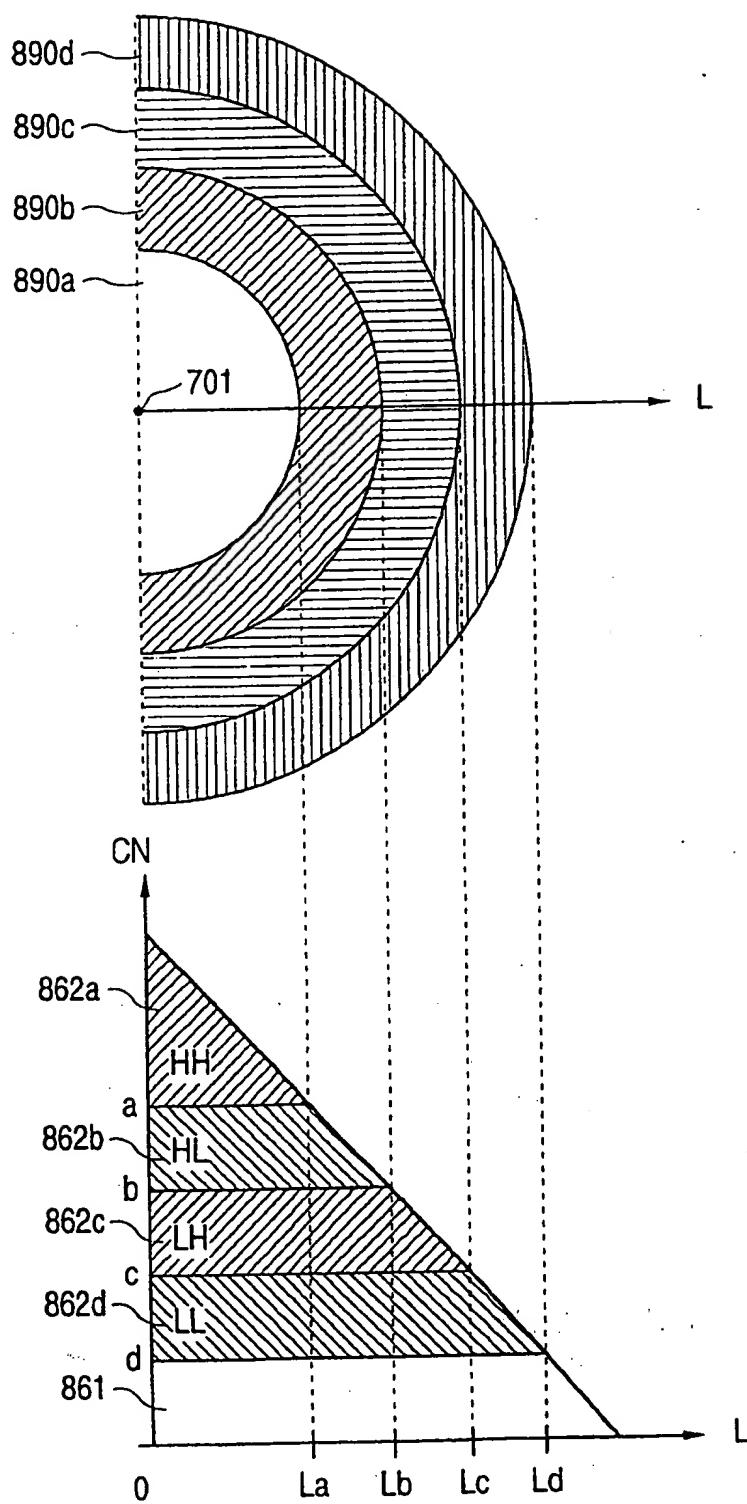
FIG. 95

FIG. 96

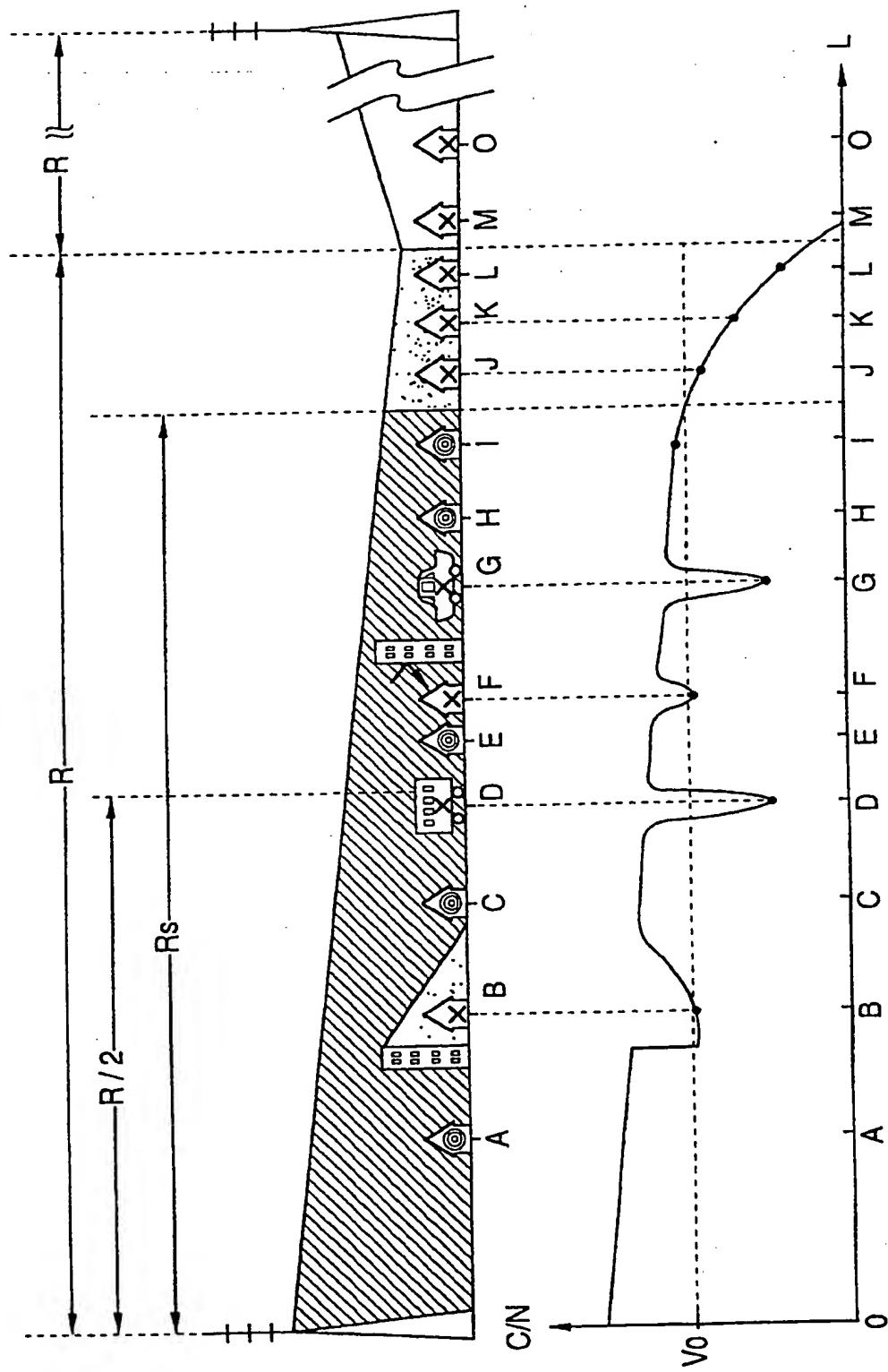


FIG. 97

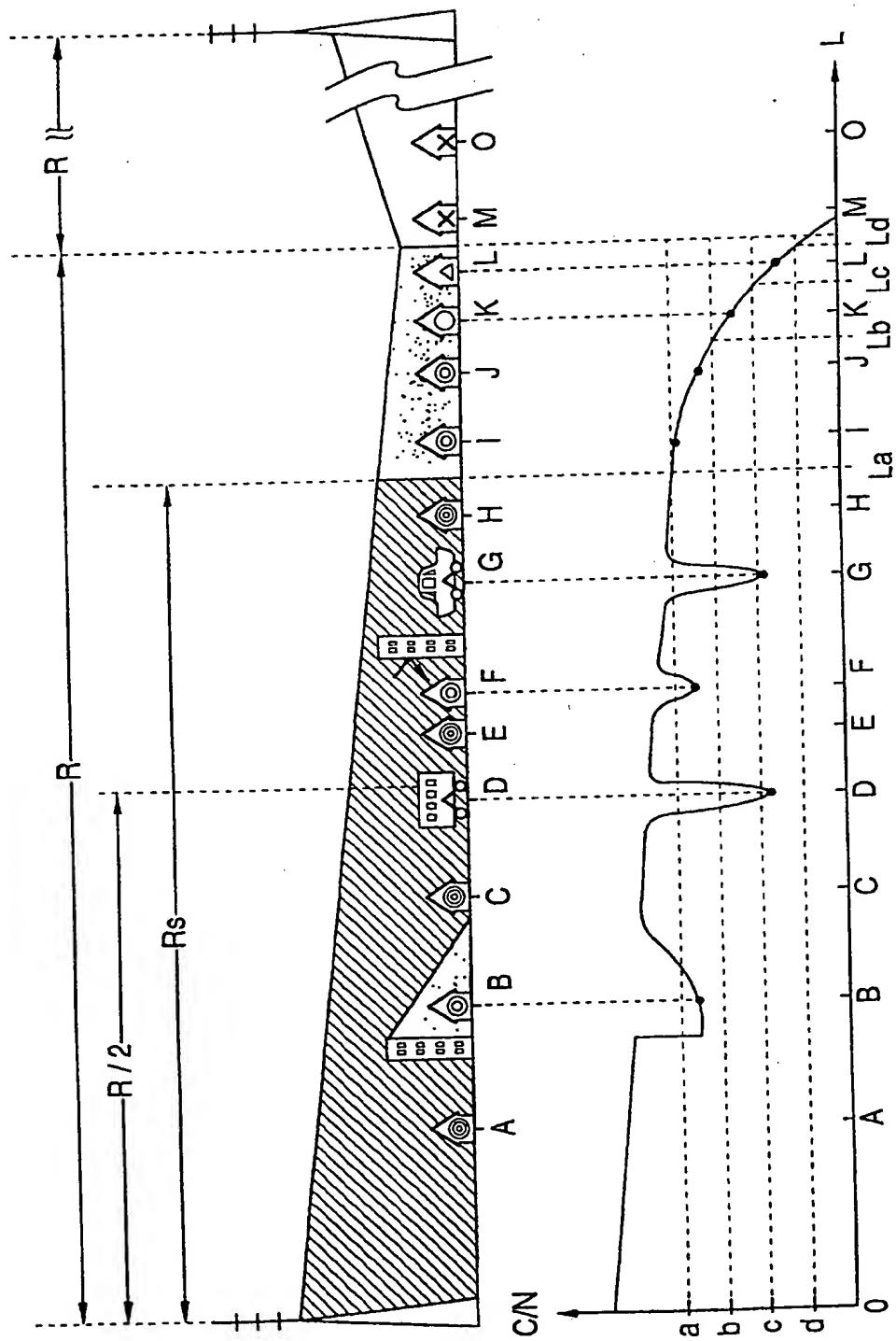


FIG. 98

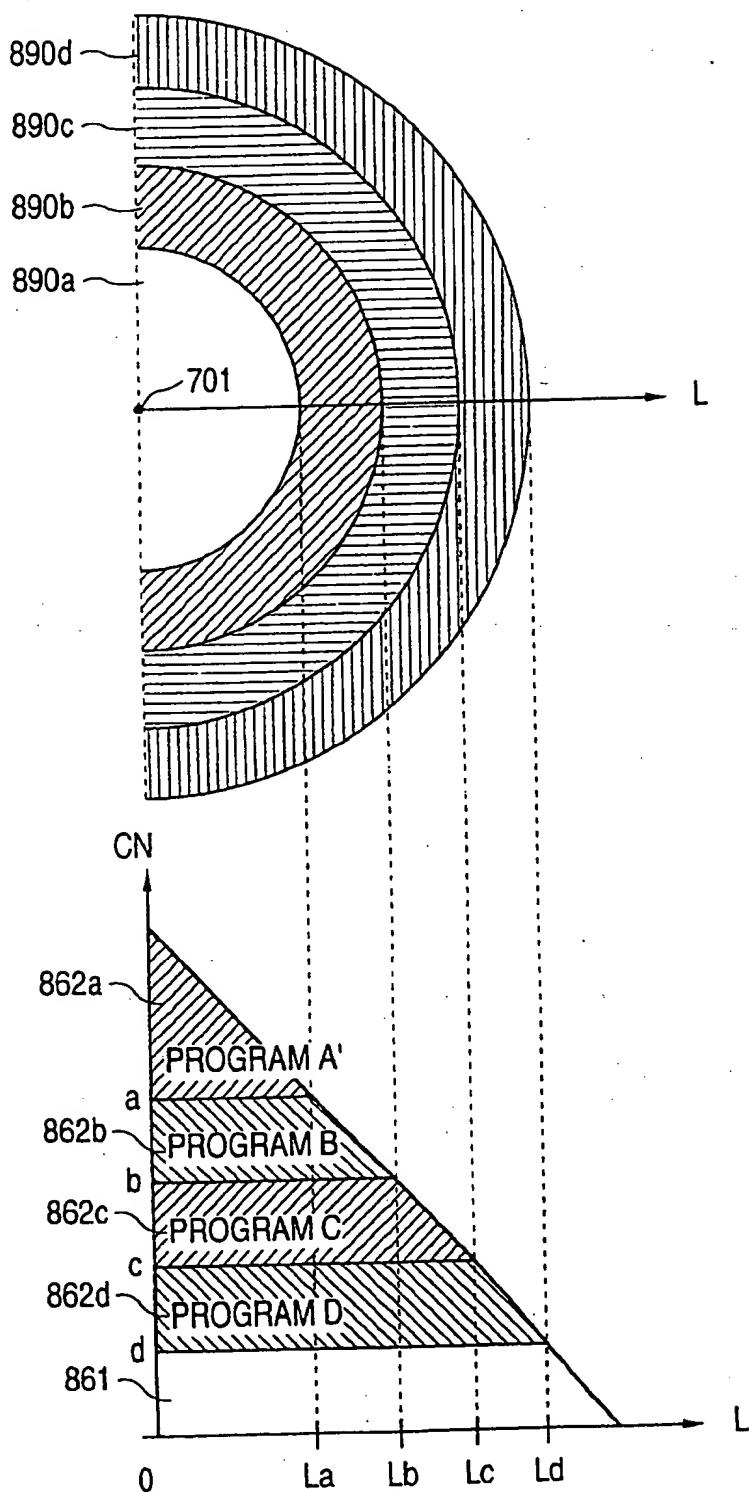


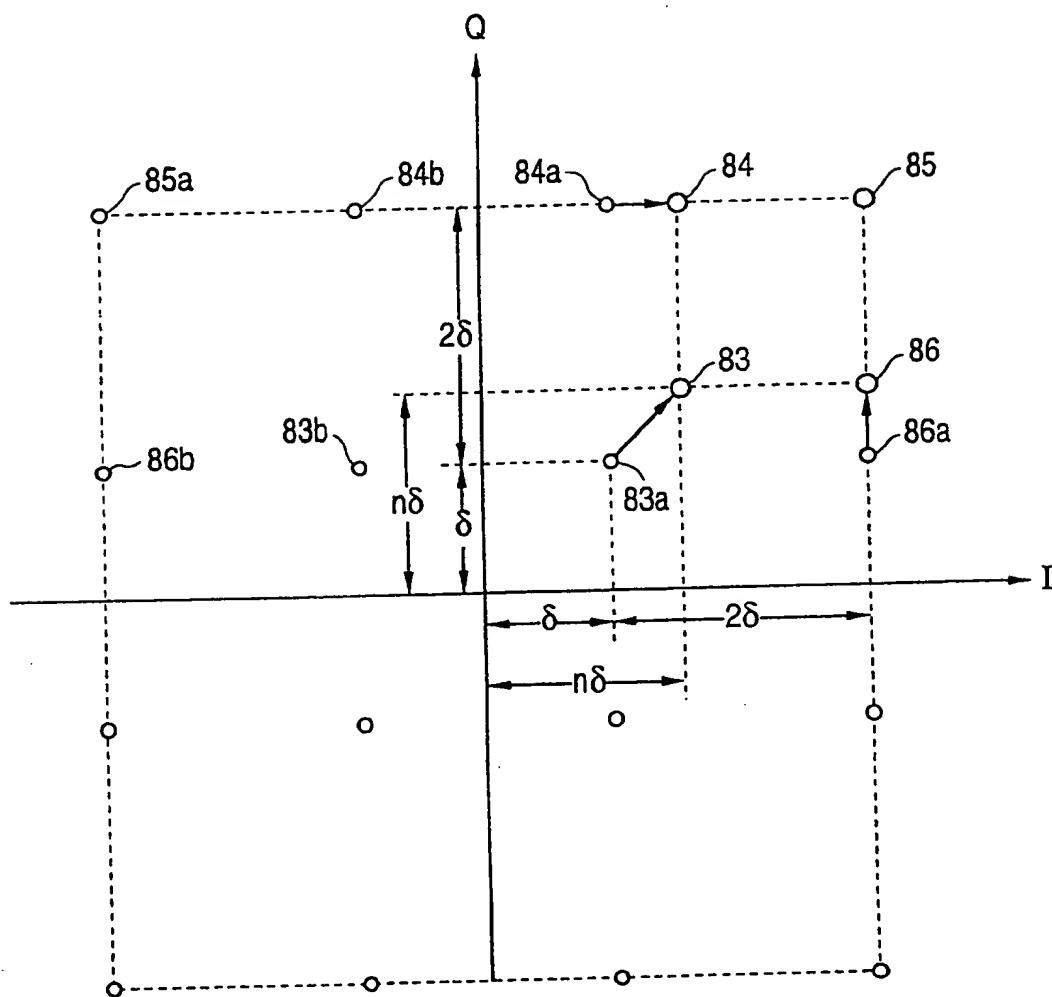
FIG. 99

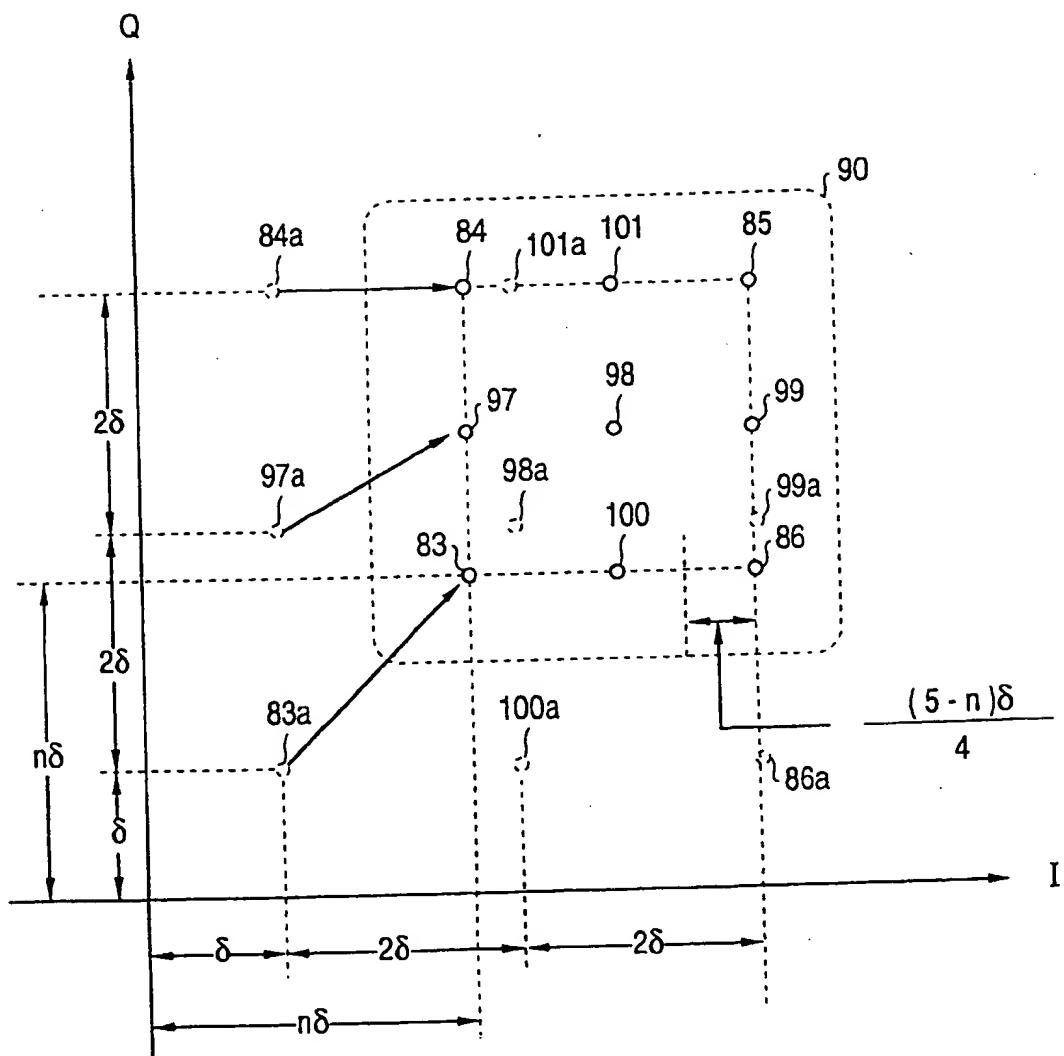
FIG. 100

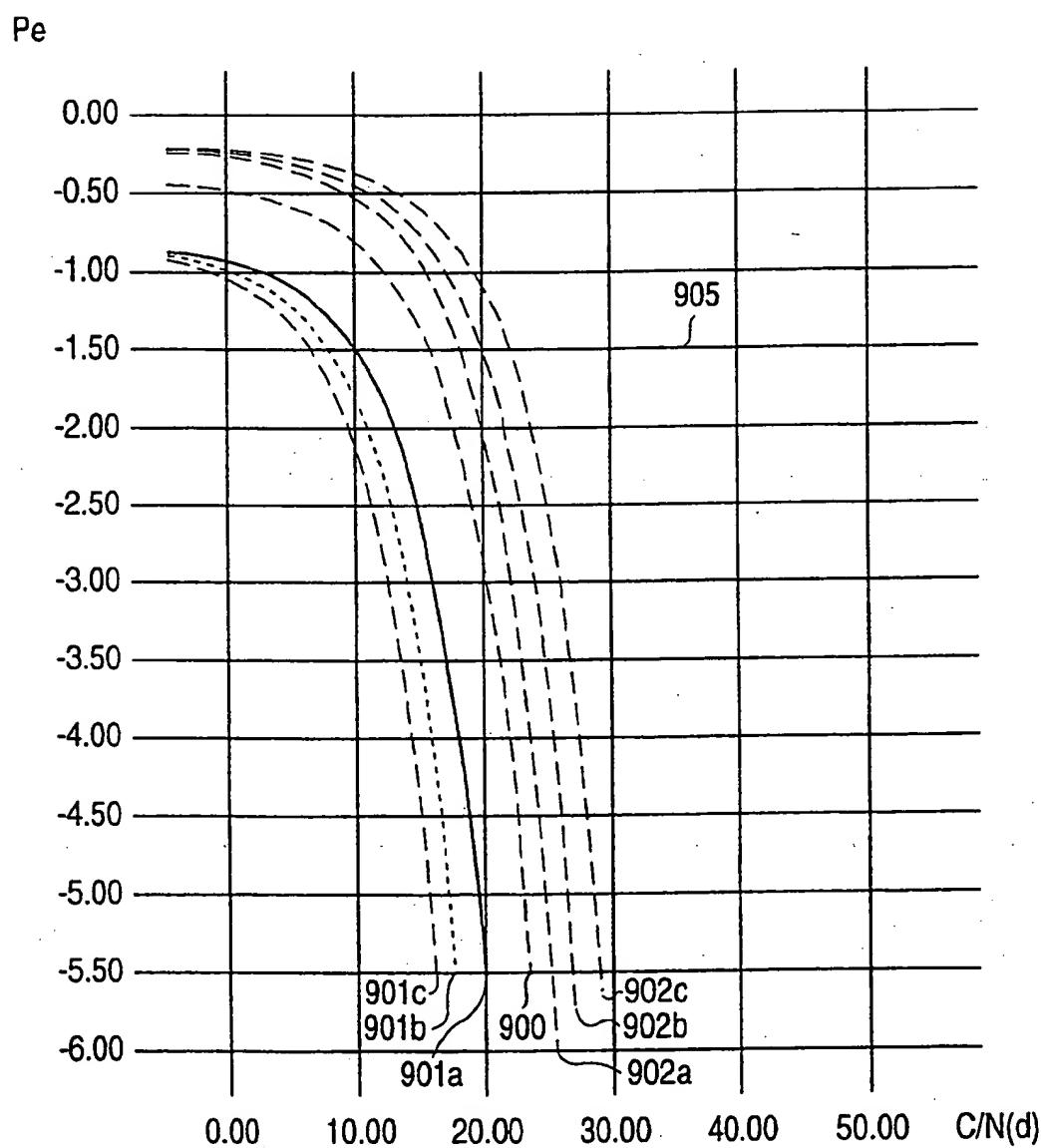
FIG. 101

FIG. 102

Pe

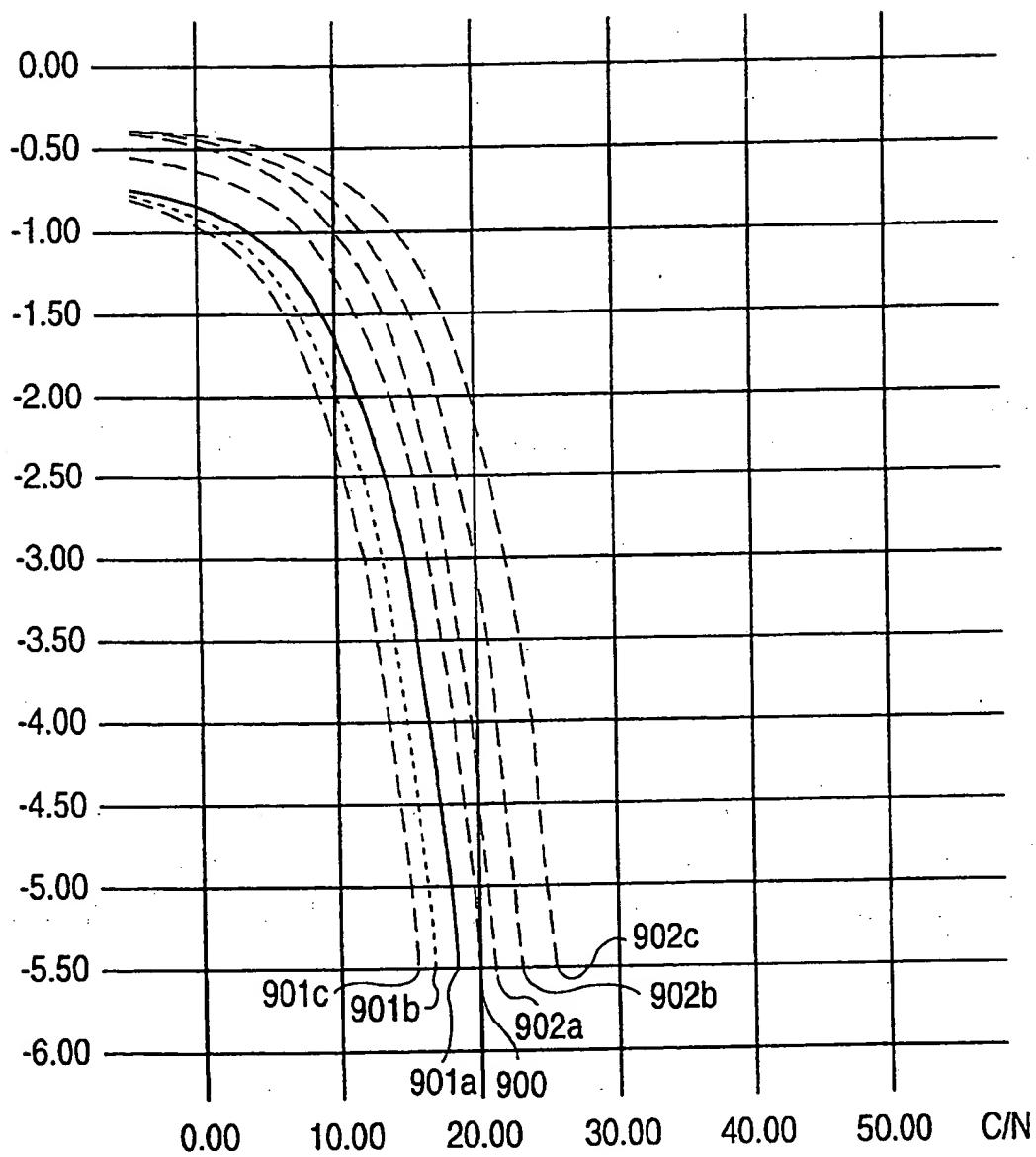


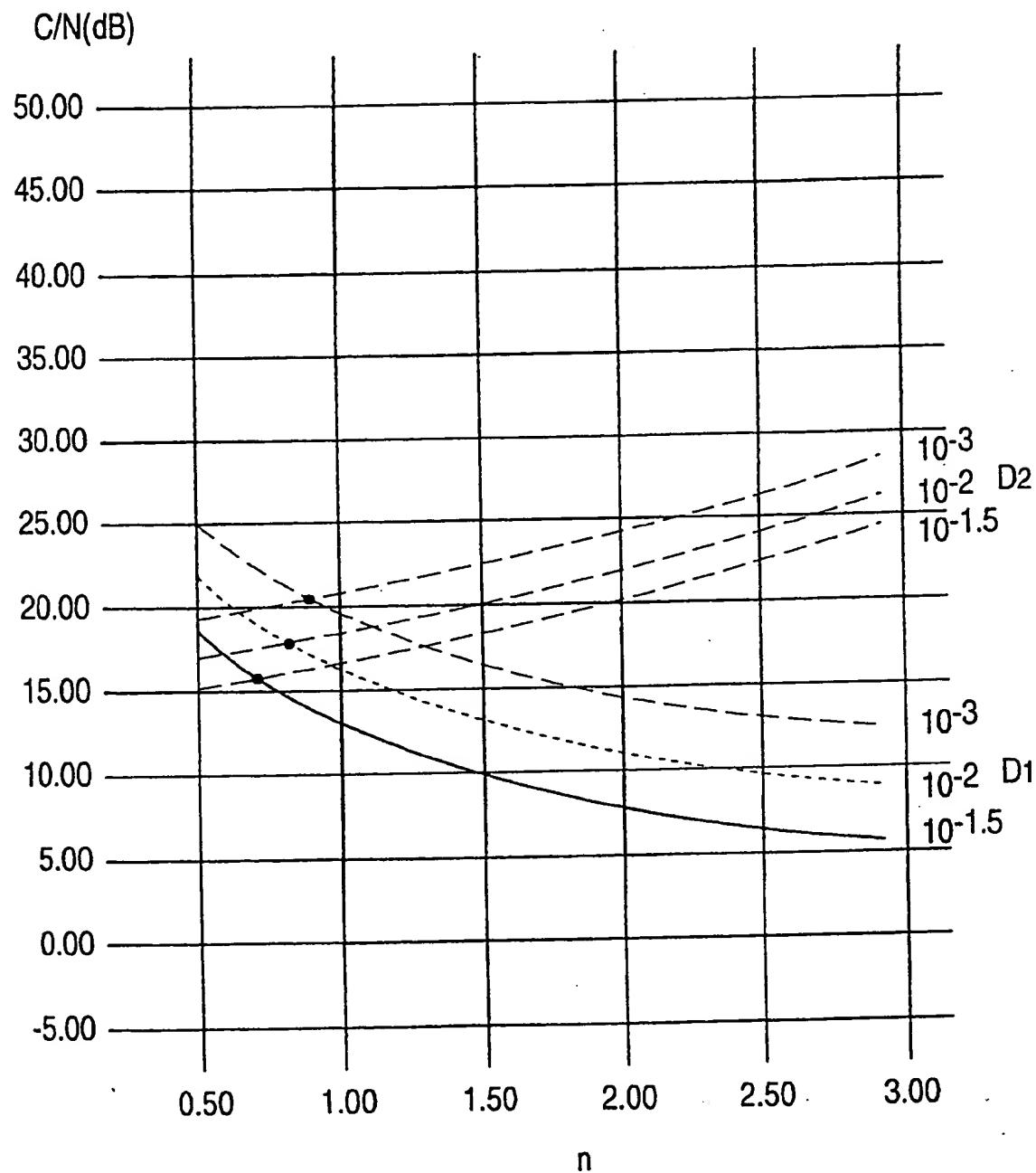
FIG. 103

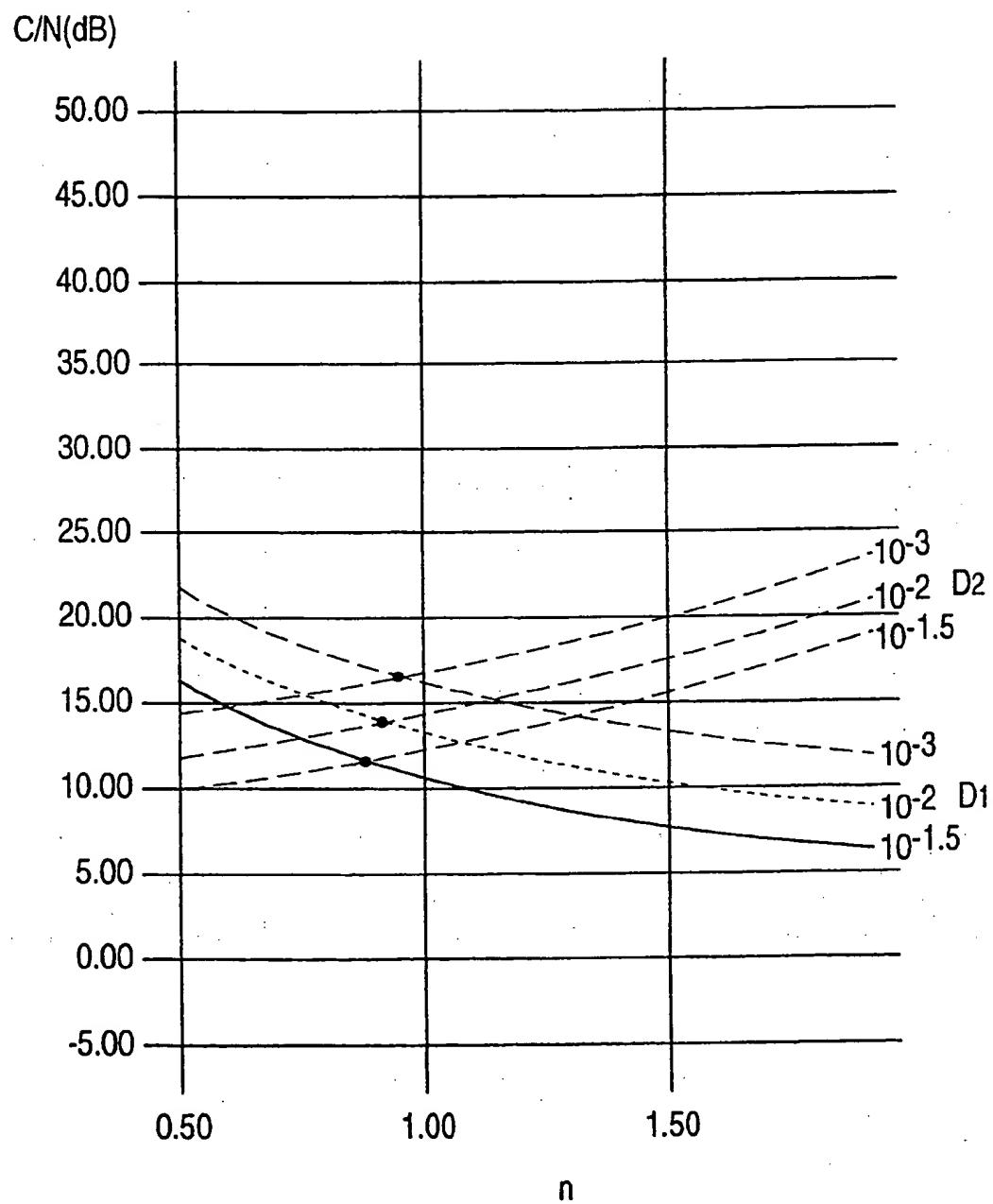
FIG. 104

FIG. 105

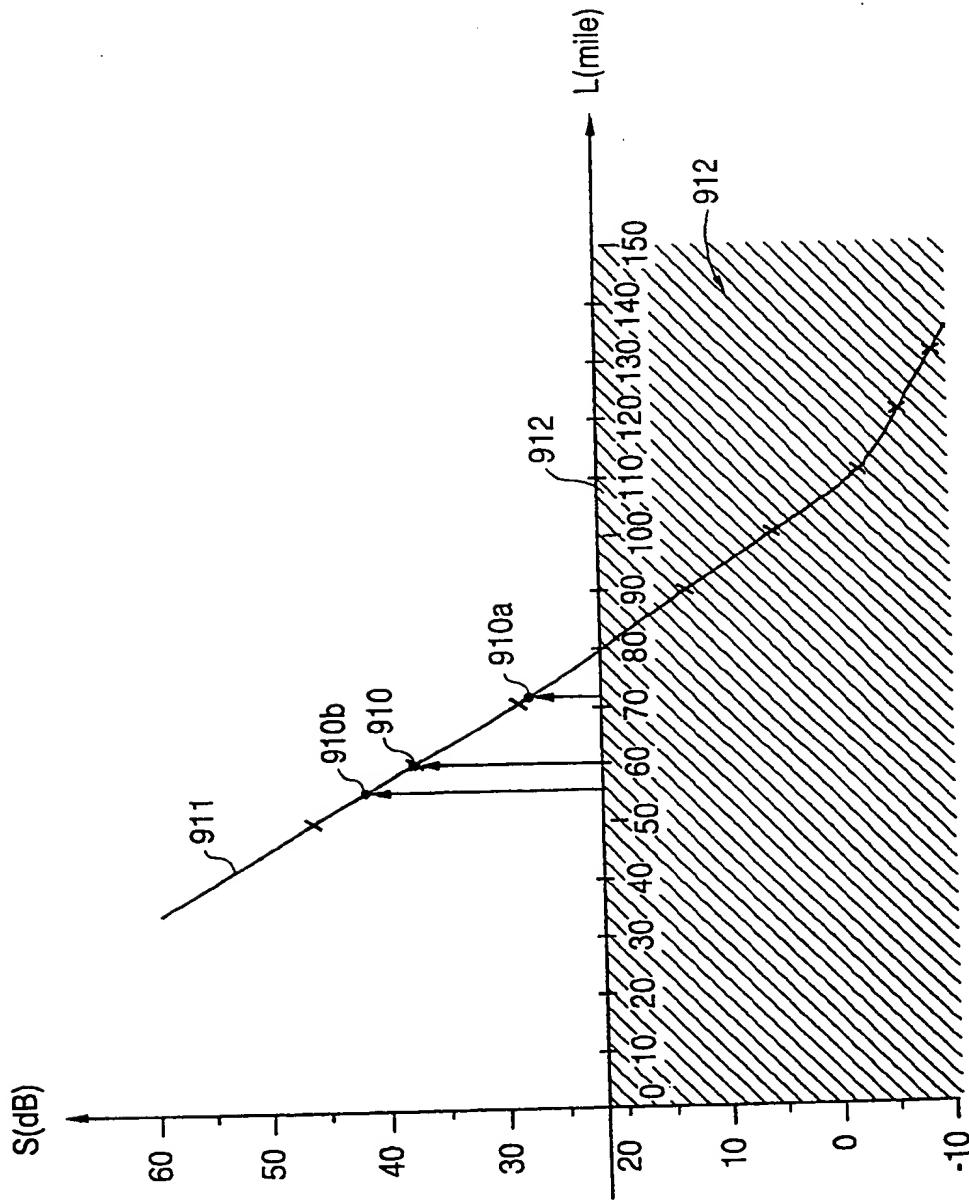


FIG. 106

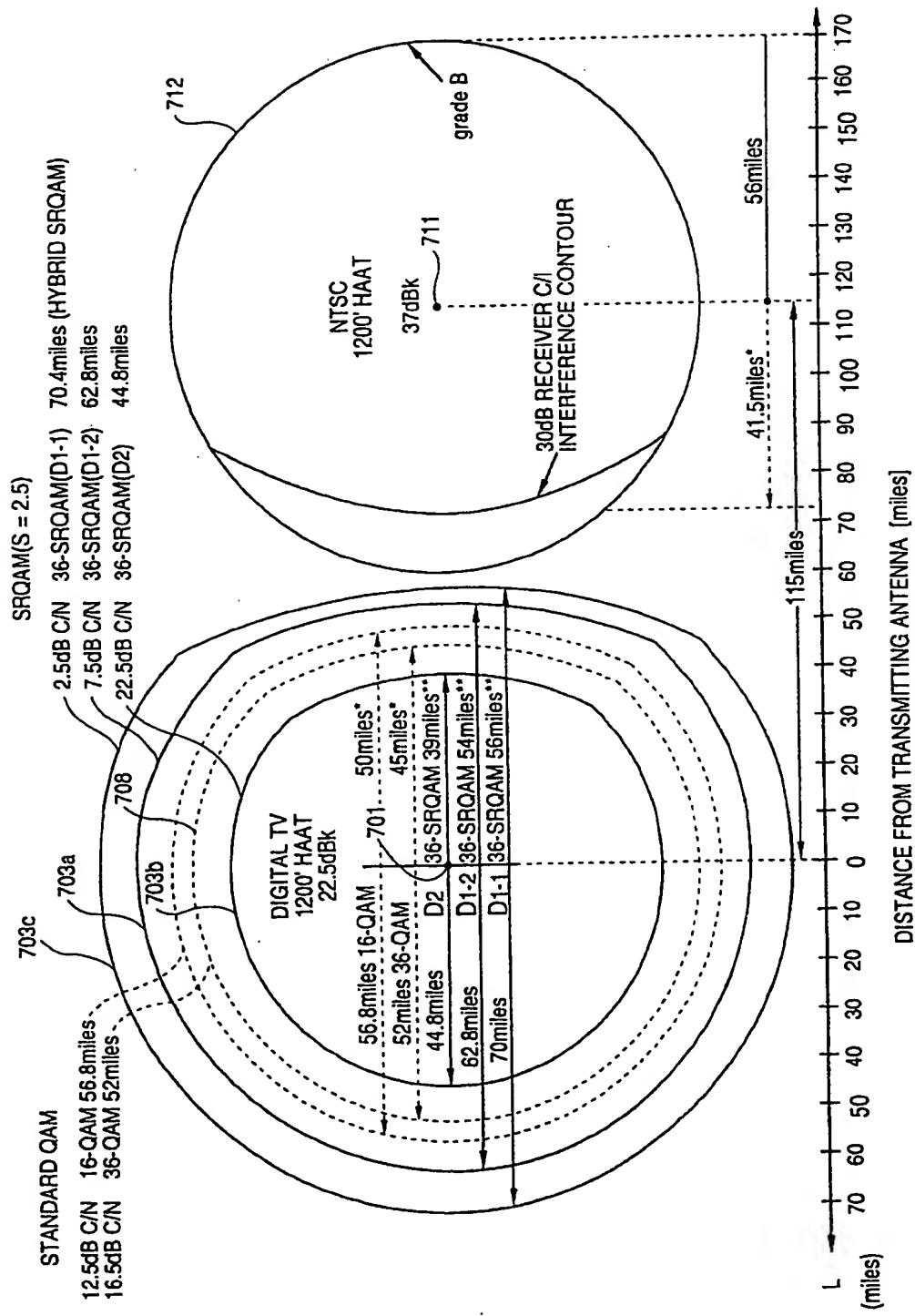


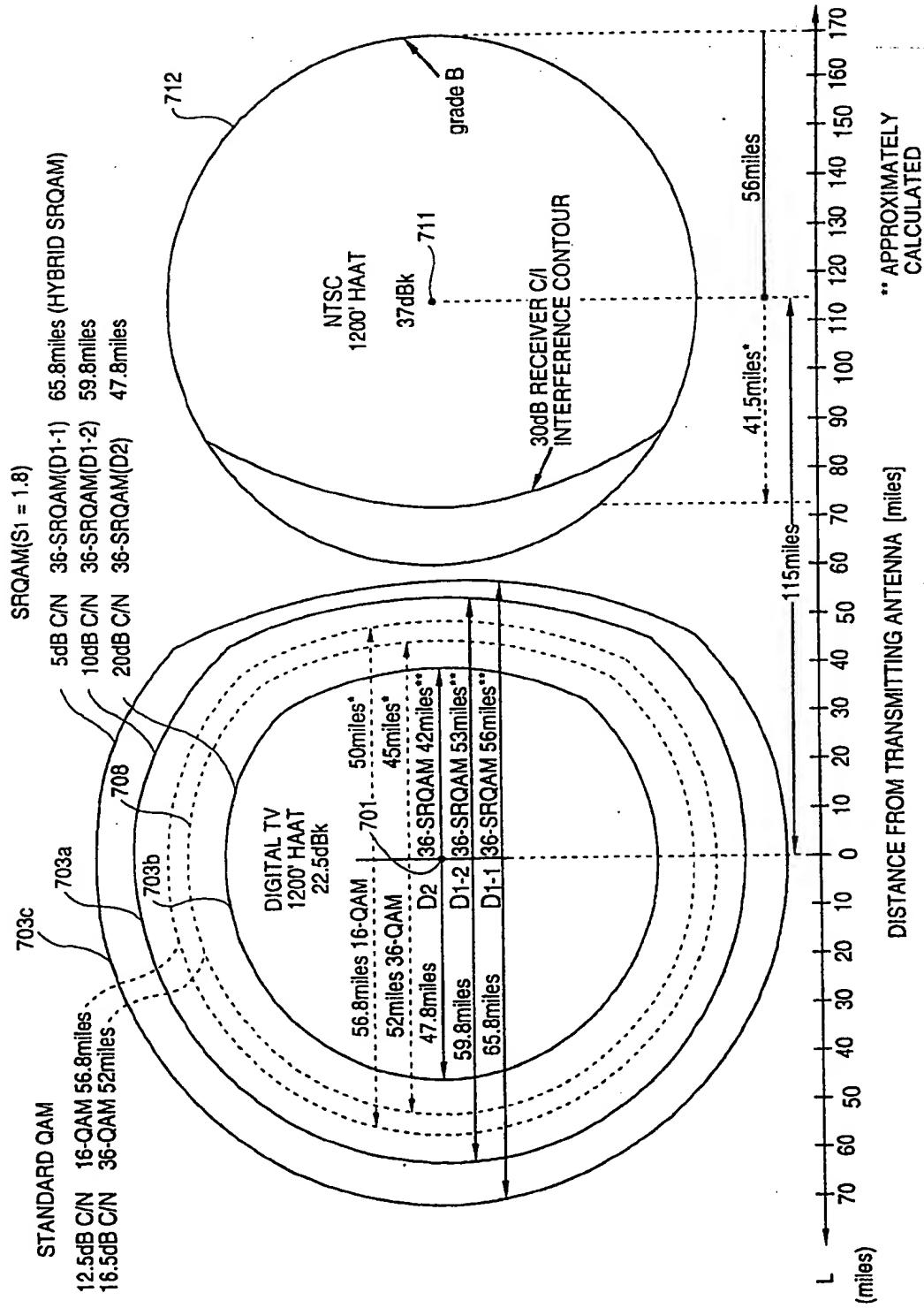
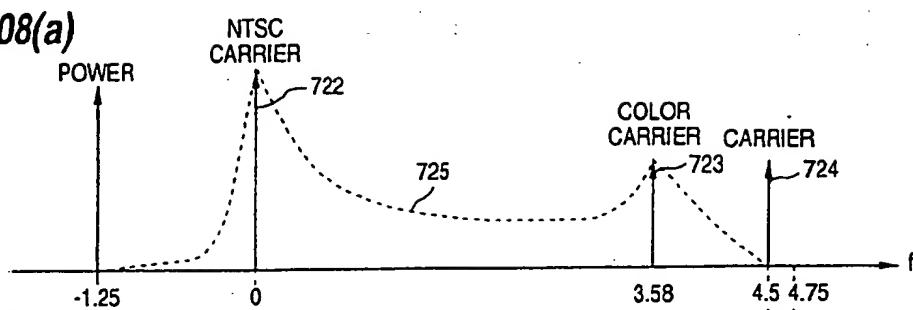
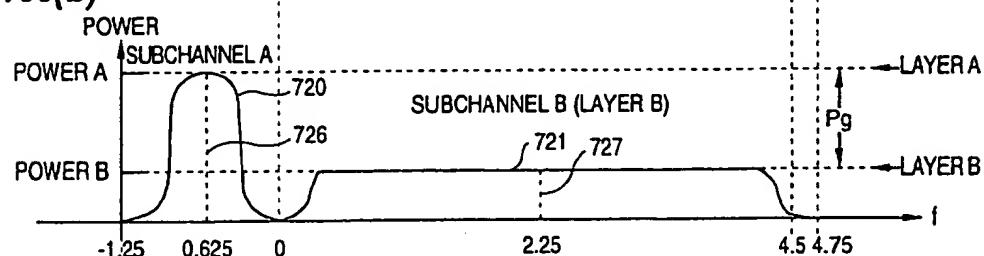
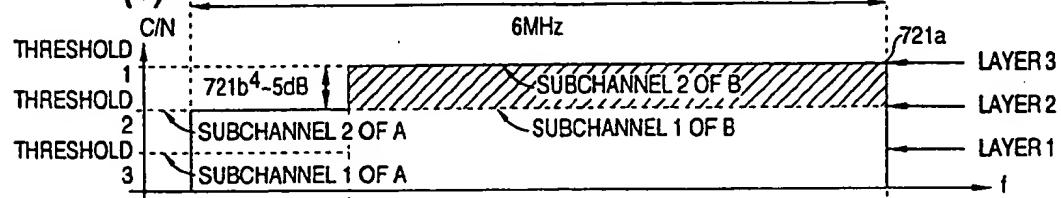
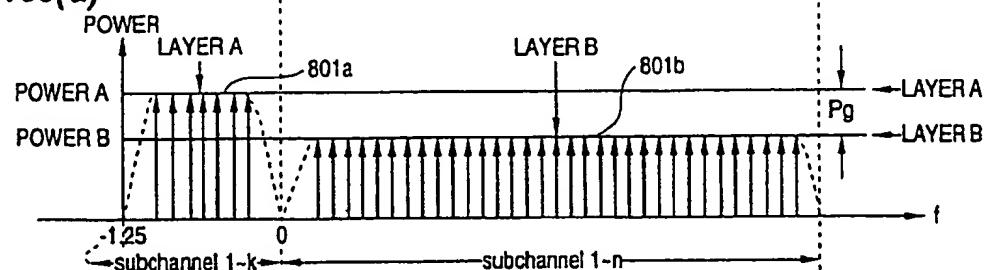
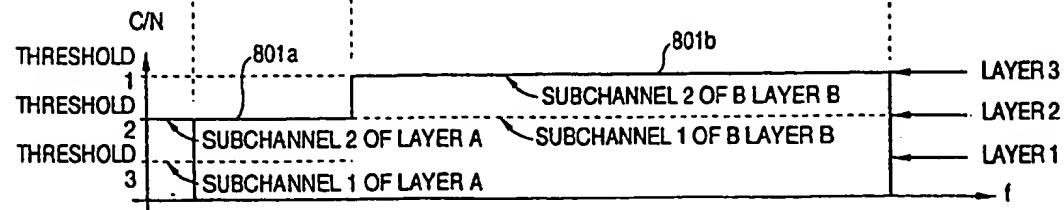
FIG. 107

FIG. 108(a)**FIG. 108(b)****FIG. 108(c)****FIG. 108(d)****FIG. 108(e)**

U.S. Patent

Feb. 4, 1997

Sheet 108 of 178

5,600,672

FIG. 109

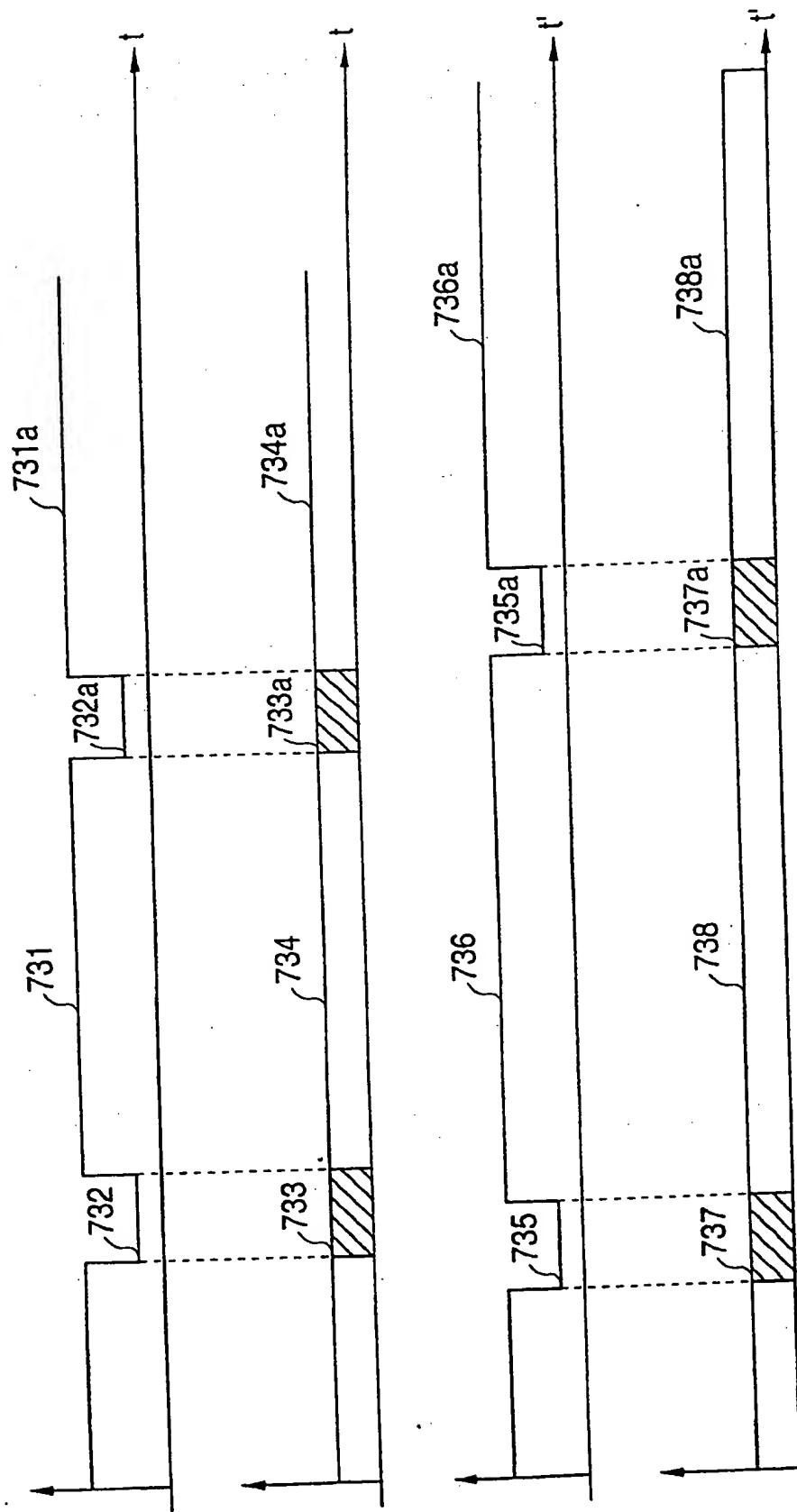


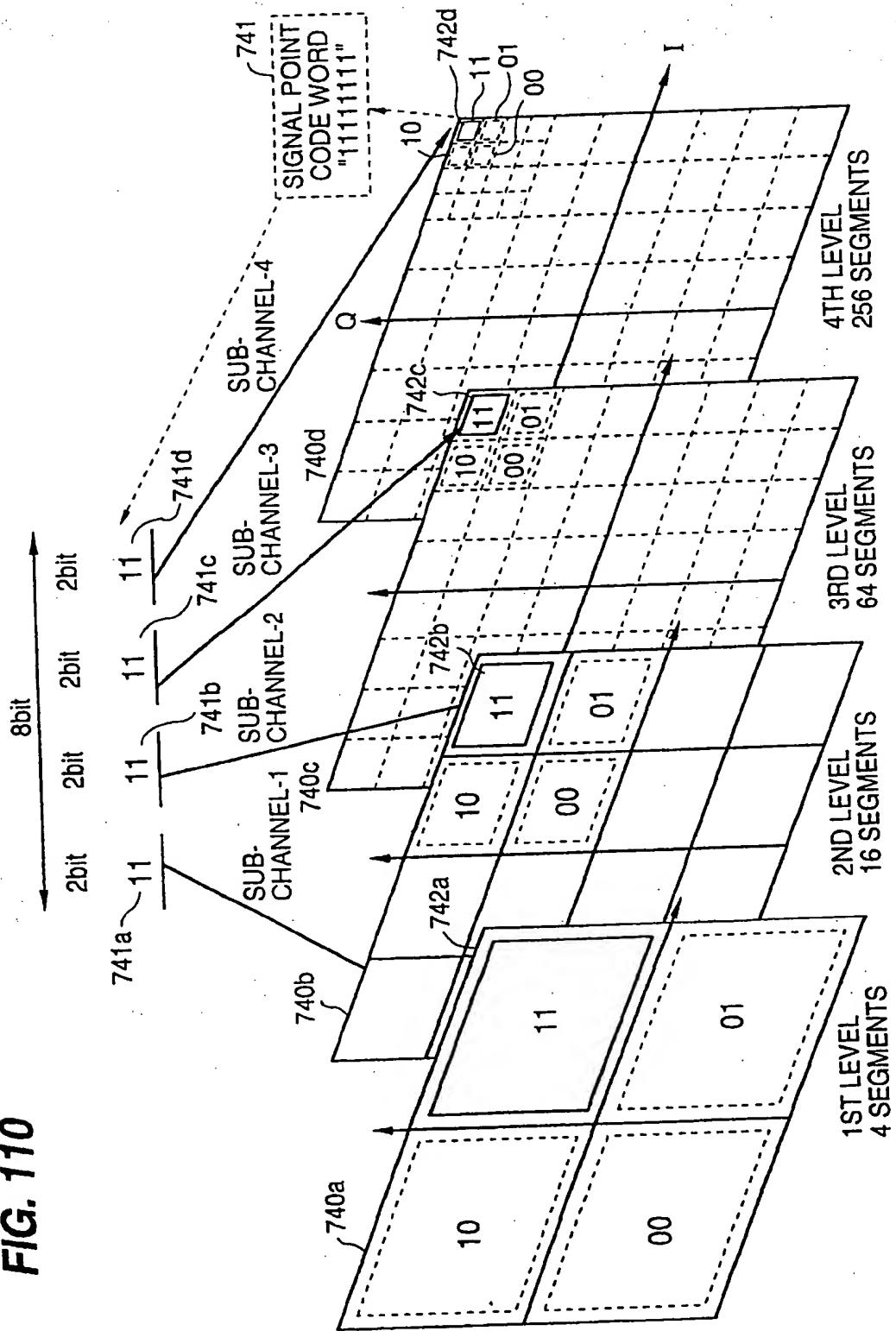
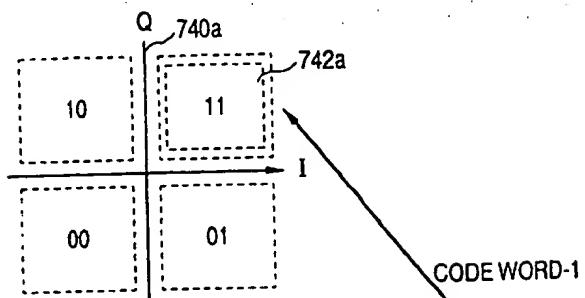
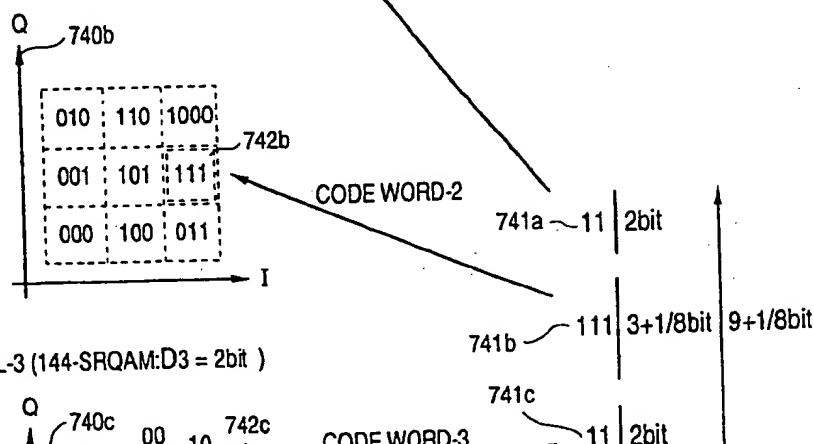
FIG. 110

FIG. 111

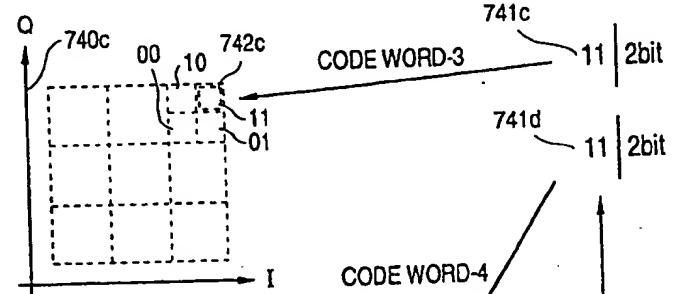
SUBCHANNEL-1 (SRQAM:D1 = 2bit)



SUBCHANNEL-2 (36-SRQAM:D2 = 3bit + 1/8bit)



SUBCHANNEL-3 (144-SRQAM:D3 = 2bit)



SUBCHANNEL-4 (576-SRQAM:D4 = 2bit)

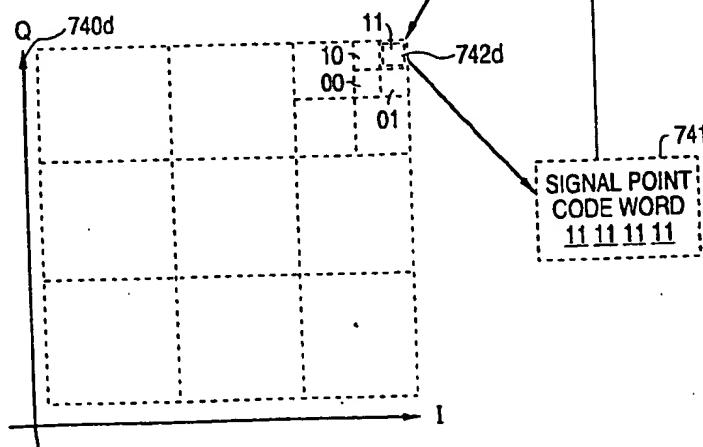
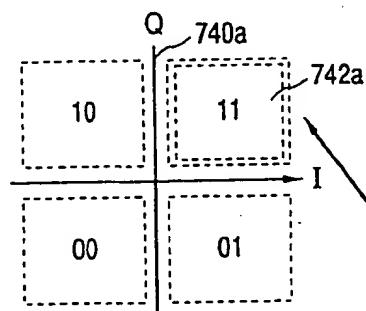
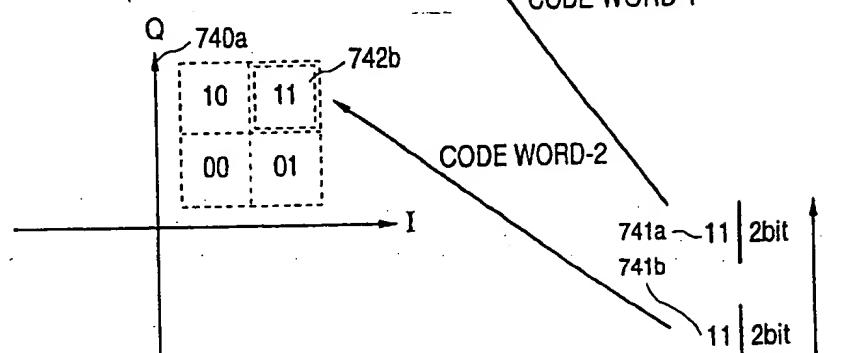


FIG. 112

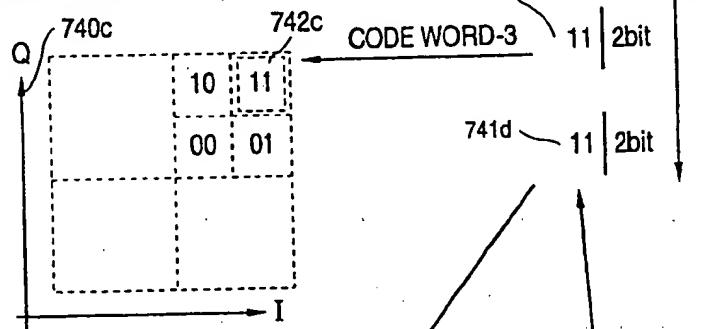
SUBCHANNEL-1 (SRQAM:D1 = 2bit)



SUBCHANNEL-2 (16-SRQAM:D2 = 2bit)



SUBCHANNEL-3 (64-SPQAM:D3 = 2bit)



SUBCHANNEL-4 (256-SRQAM:D4 = 2bit)

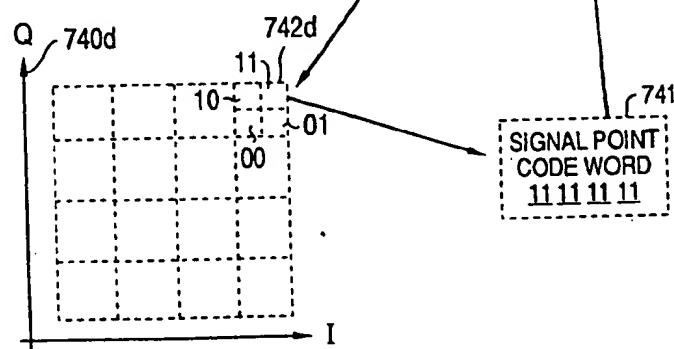


FIG. 13

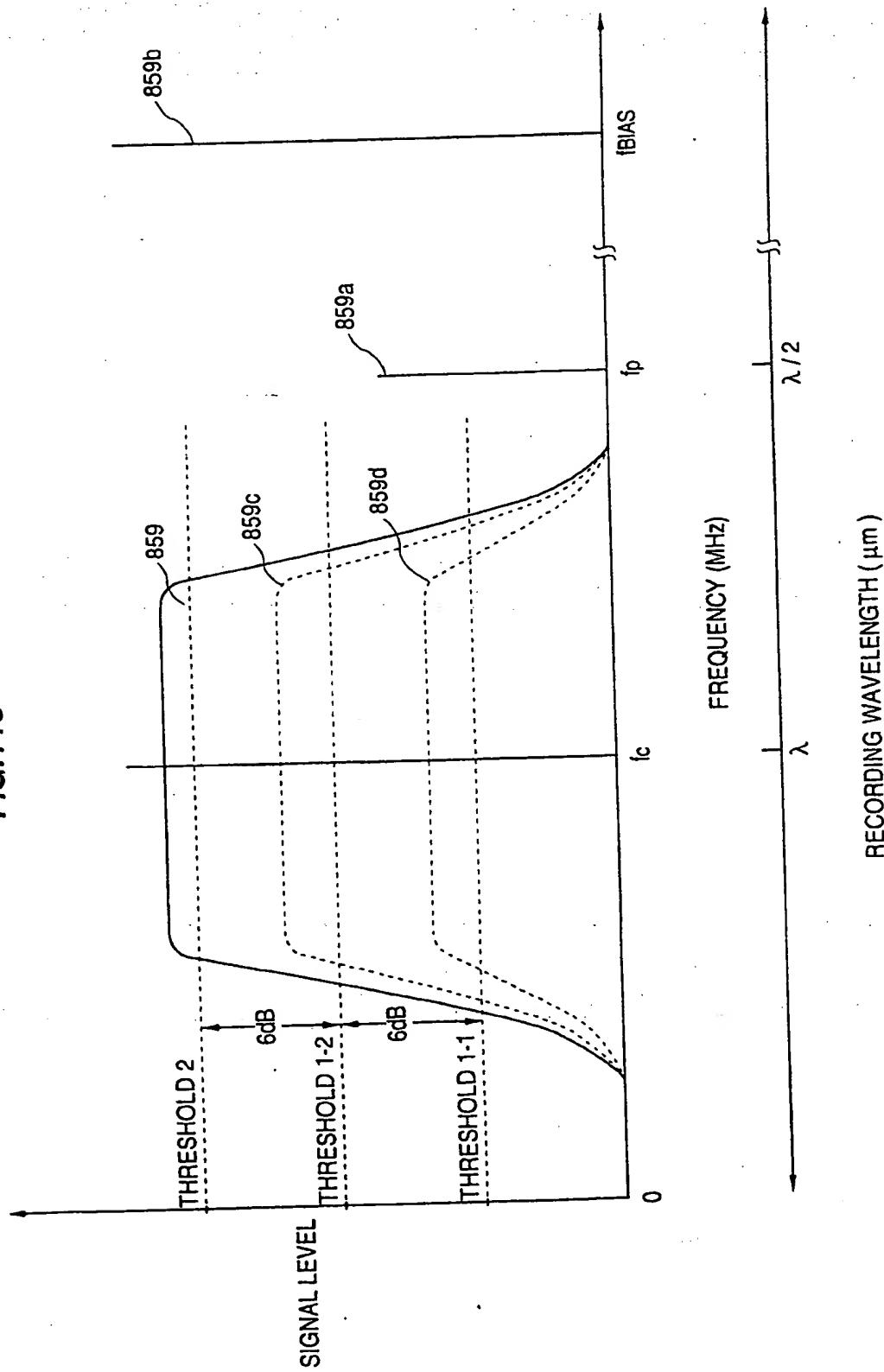


FIG. 114

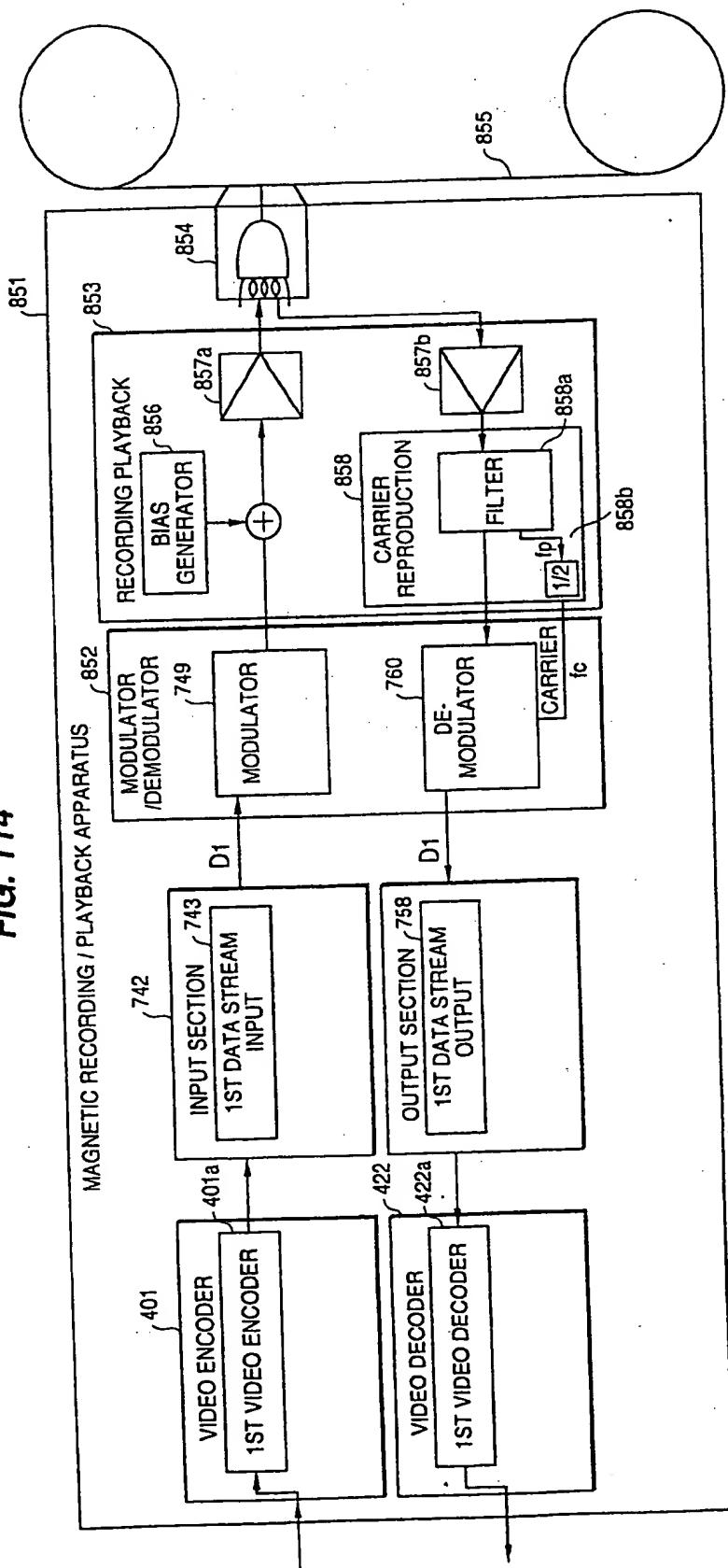


FIG. 115

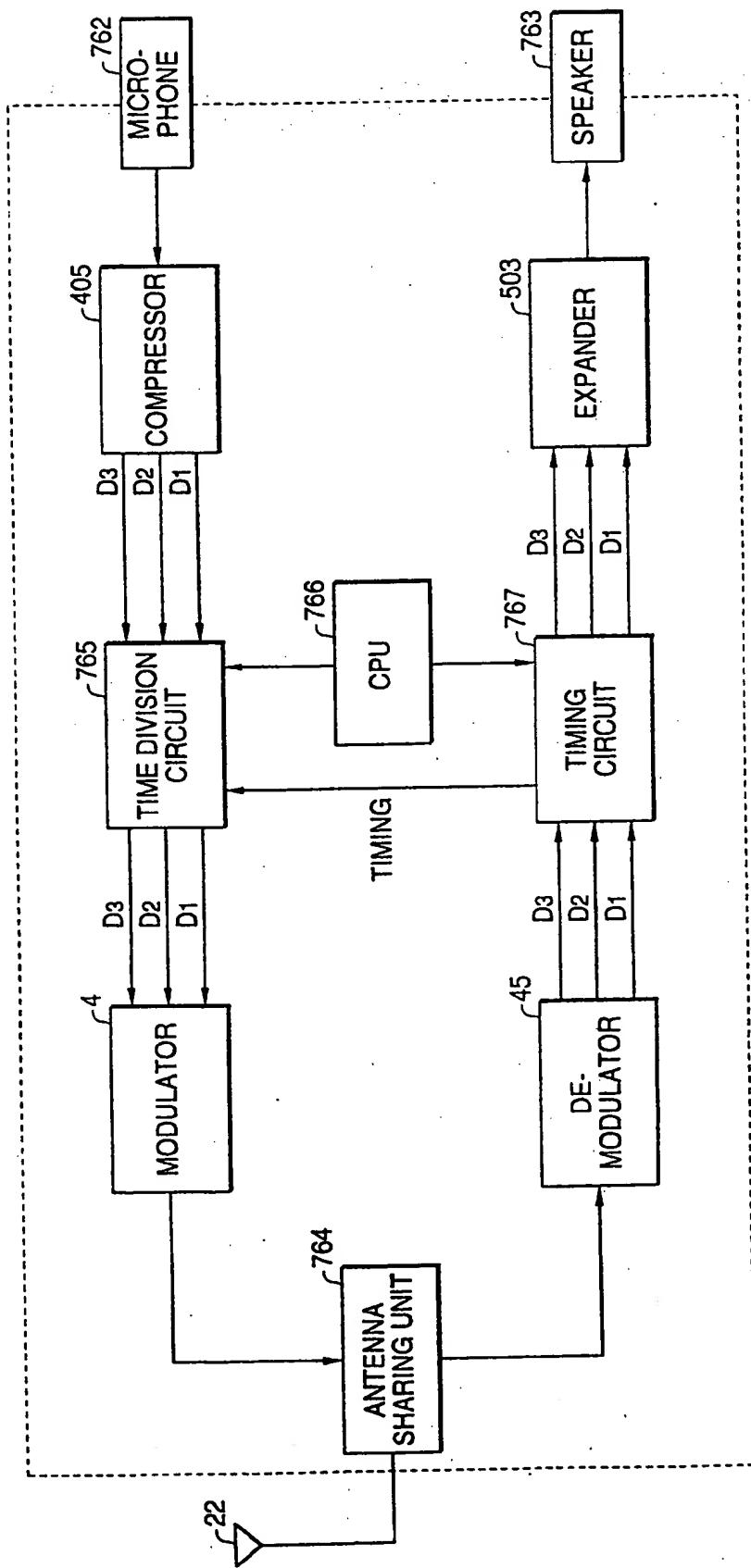
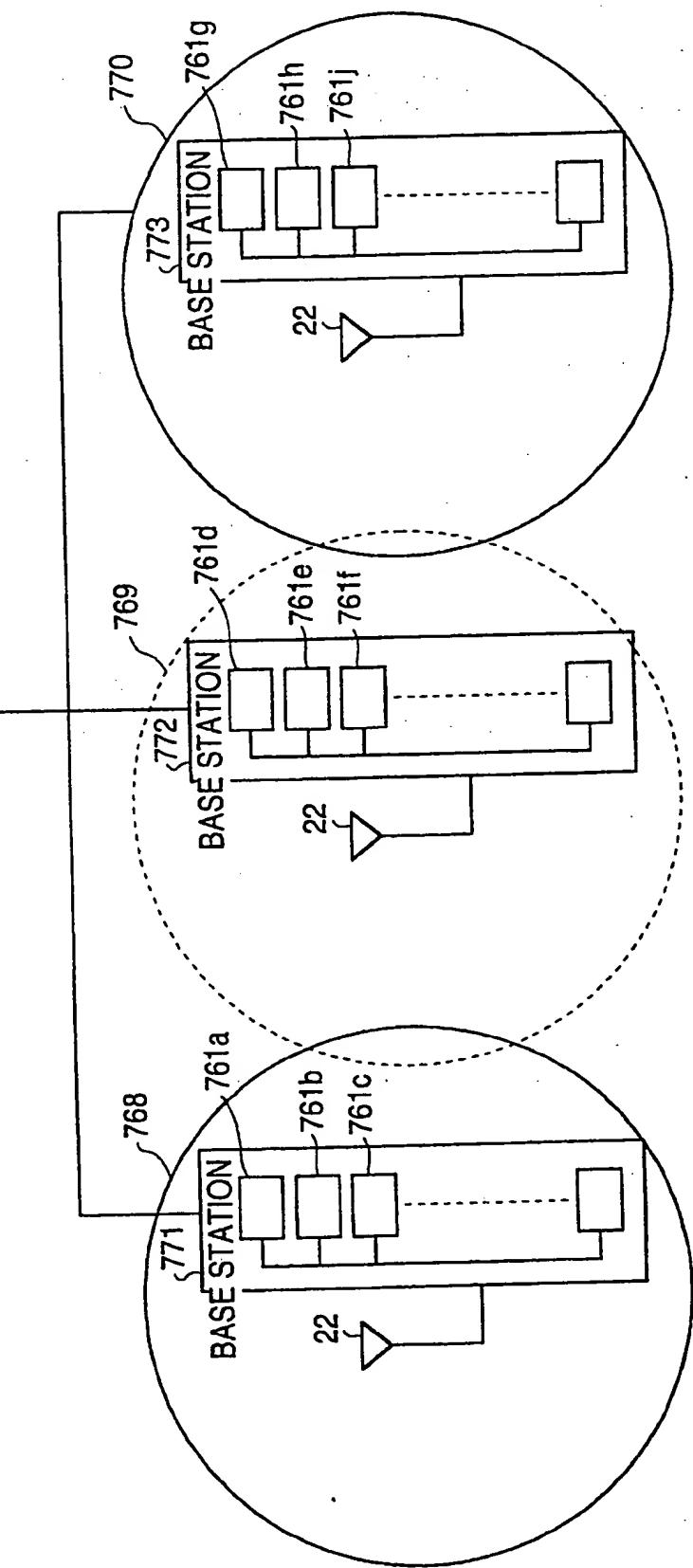
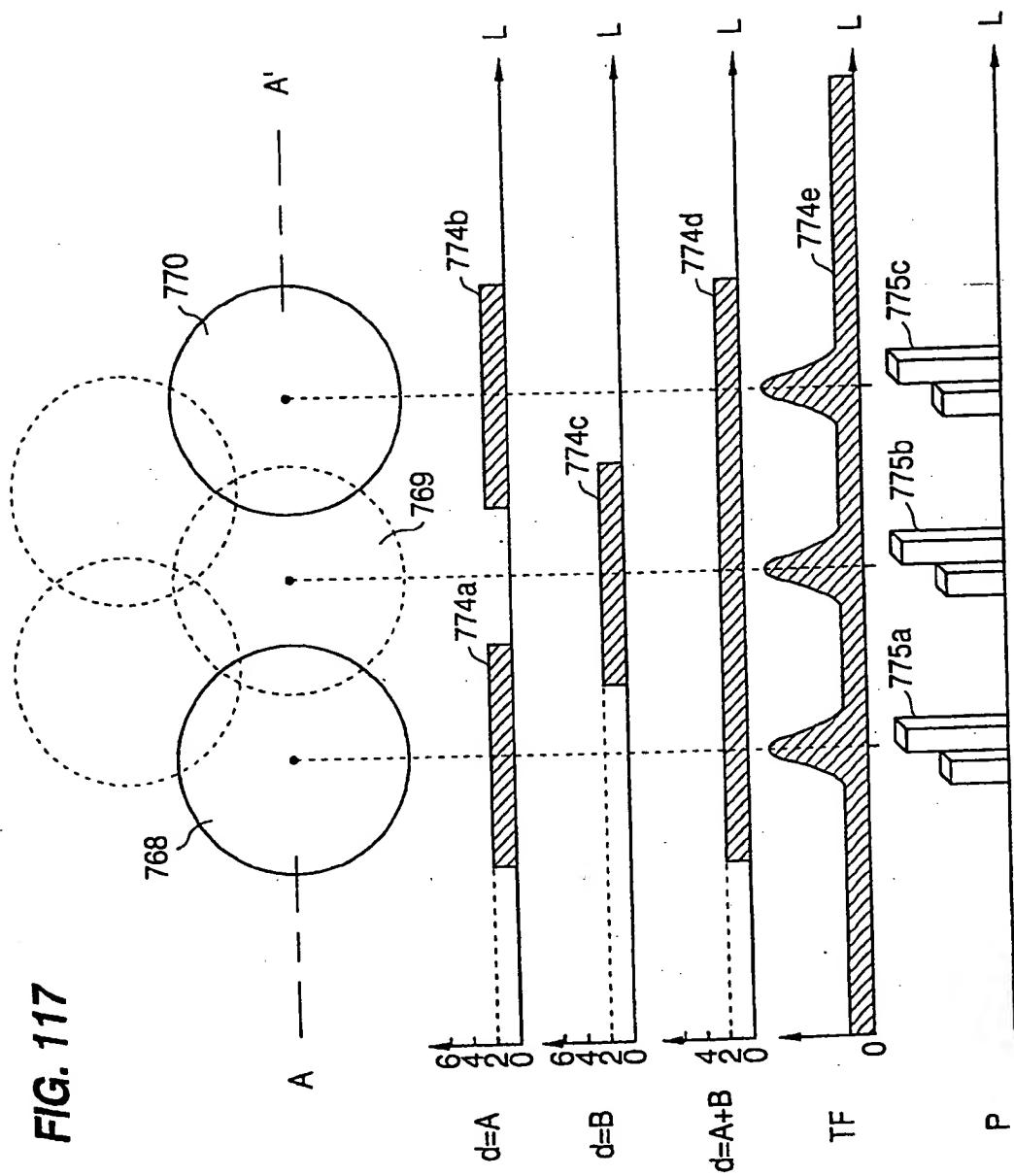


FIG. 116



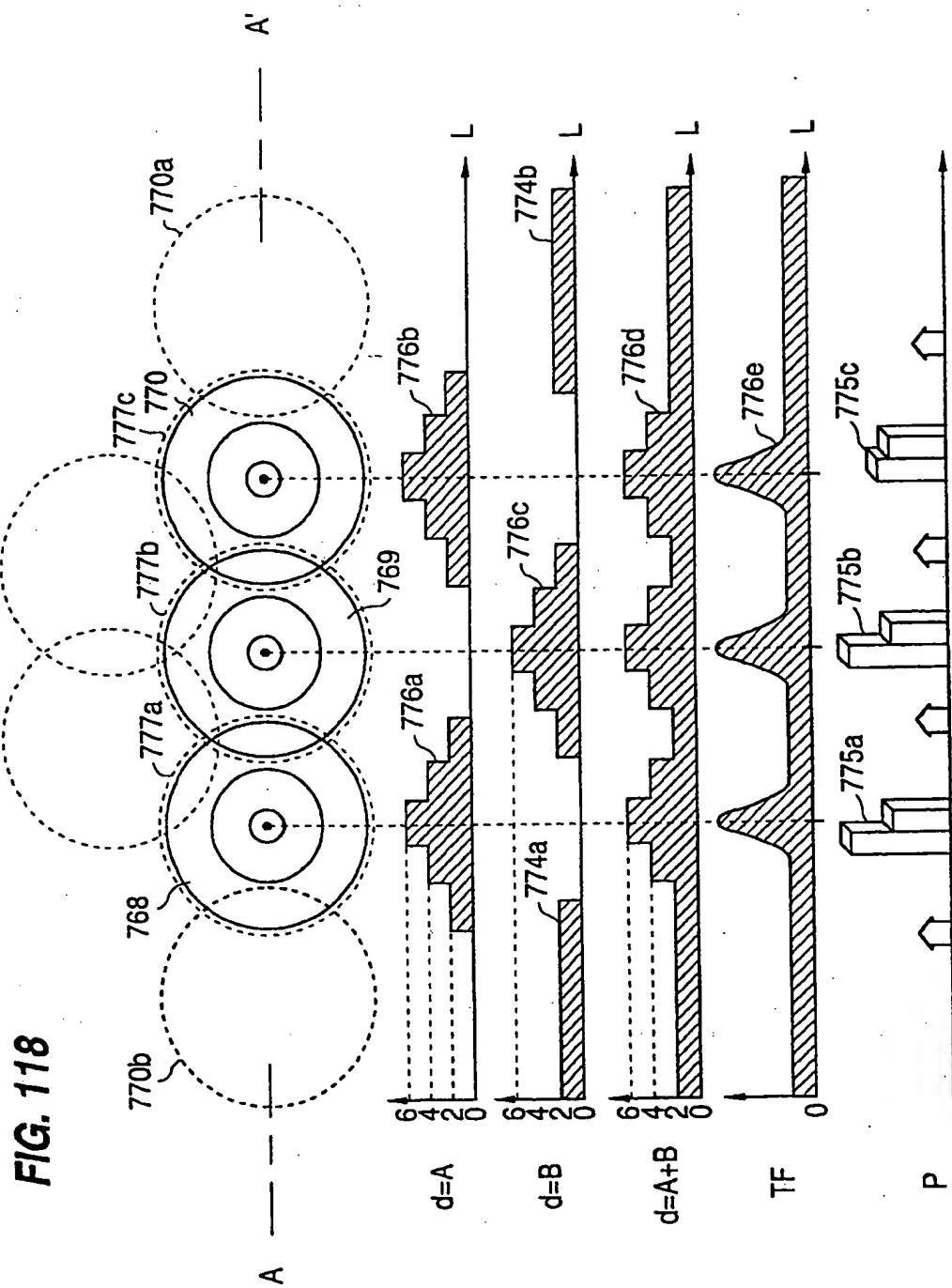


FIG. 119(a)

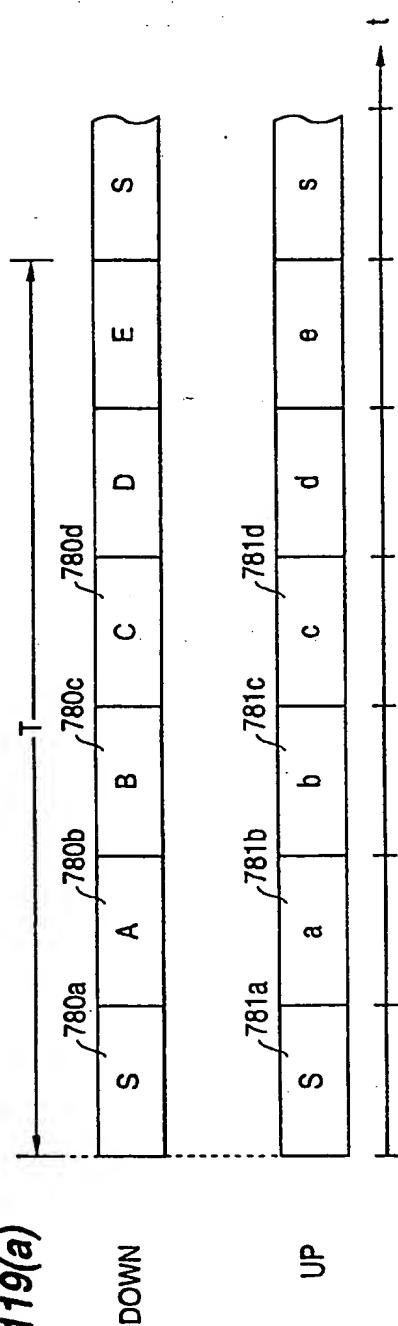


FIG. 119(b)

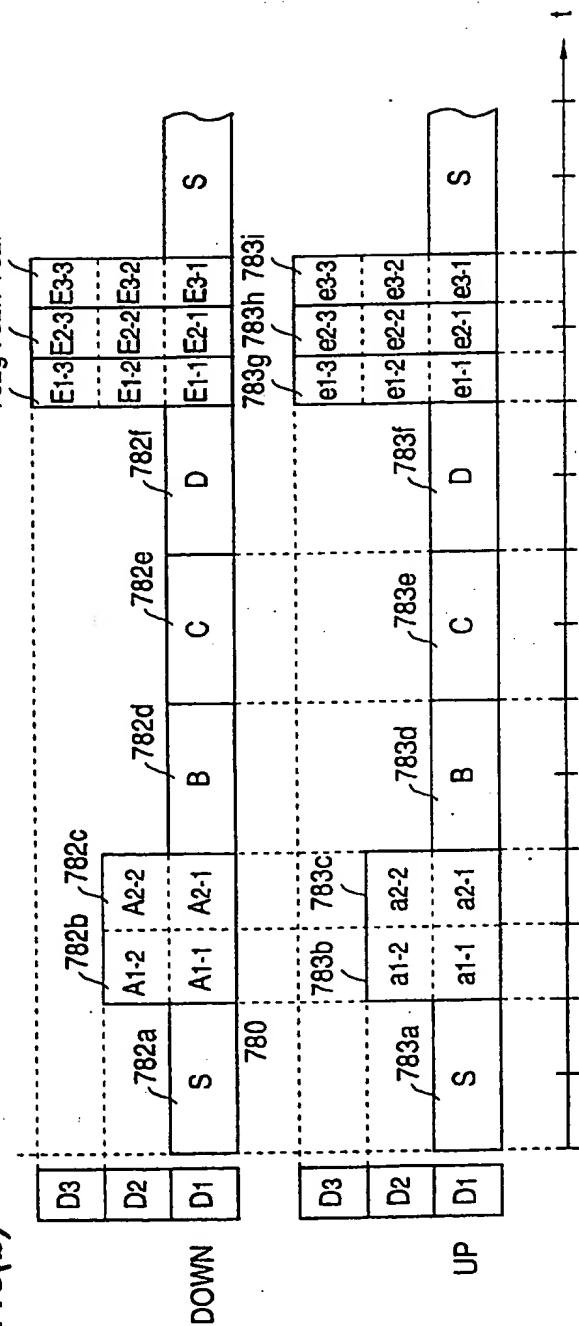


FIG. 120(a)

S	A	a	B	b	C	c	D	d	E	e	F	f	G	s
785	786a	787a	786b	787b	786c	787c	786d	787d	786e	787e	786f	787f	786g	787g
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
S	A	a	B	b	C	c	D	d	E	e	F	f	G	s
785	786a	787a	786b	787b	786c	787c	786d	787d	786e	787e	786f	787f	786g	787g

FIG. 120(b)

D3	788a	788b	788c	788d										
D2	785	A1-2	A2-2	A1-2	A2-2	788e	788f	788g	788h	D1-2	E1-2	E2-2	788q	788t
D1	S	A1-2	A2-1	A1-2	A2-1	S	b	C	c	D1-2	D3-1	D2-1	E1	F2-1

788i 788j 788k 788m 788n 788l 788o 788p 788q 788r 788s 788t 788u

FIG. 121

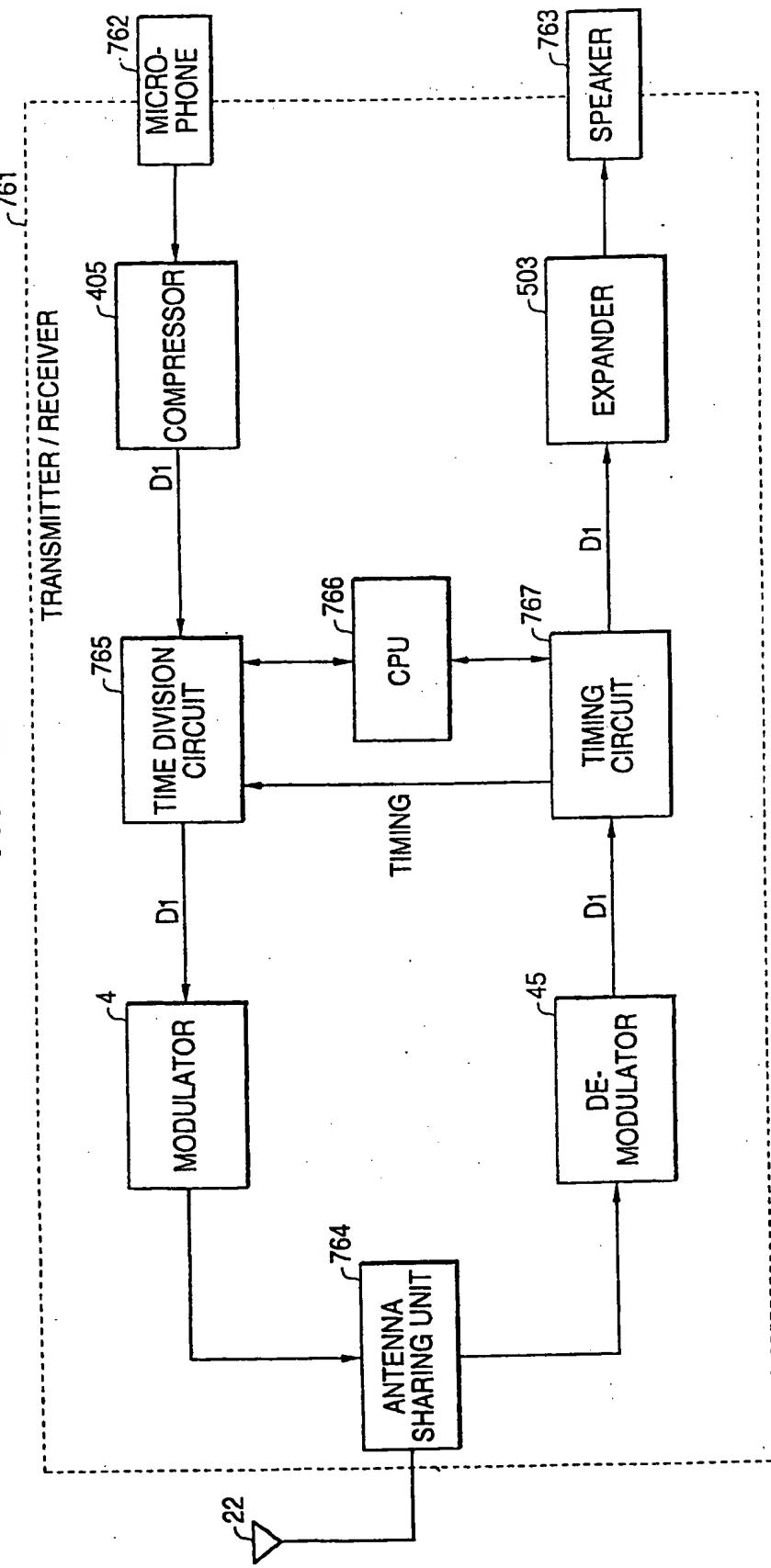
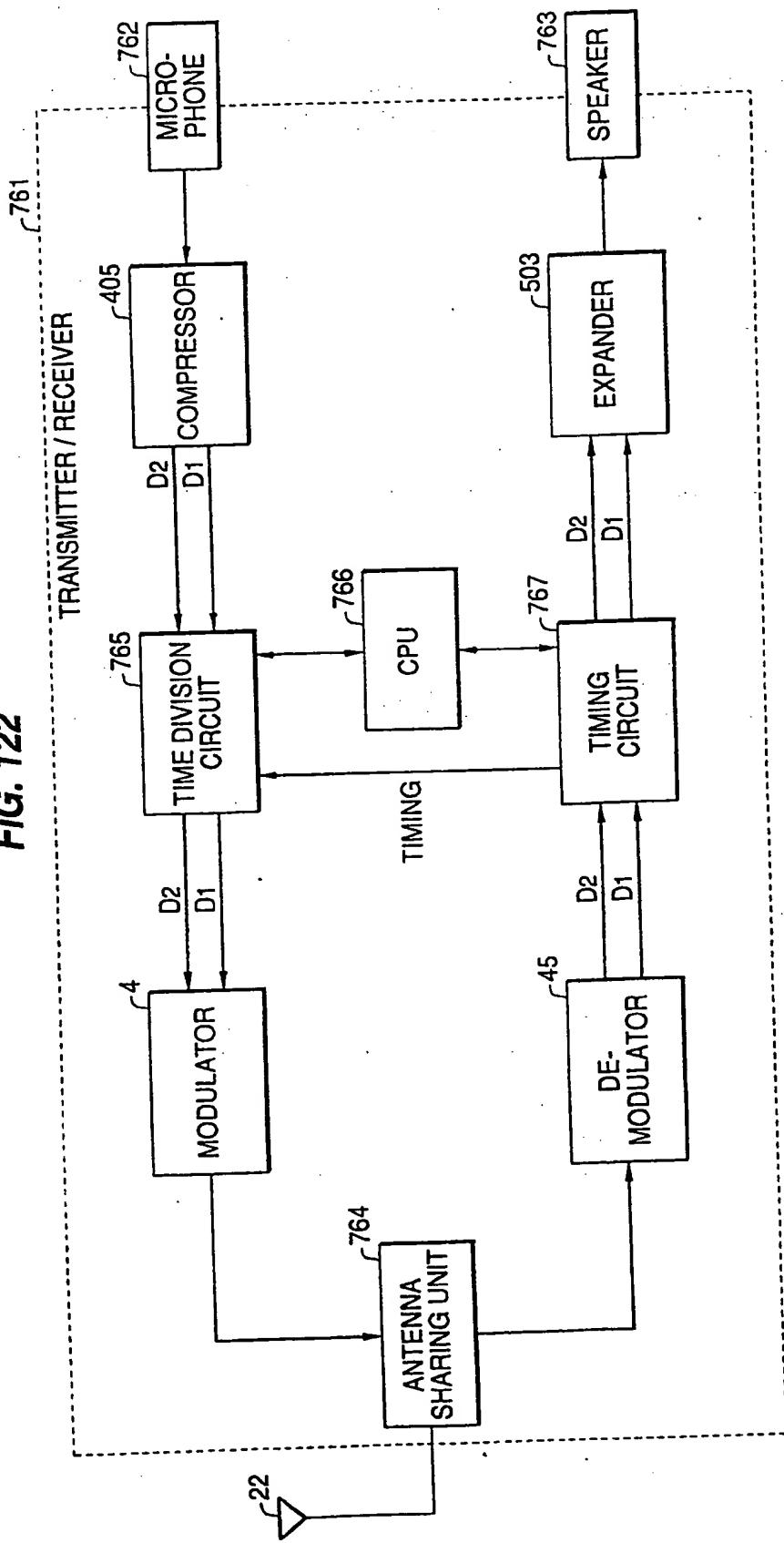
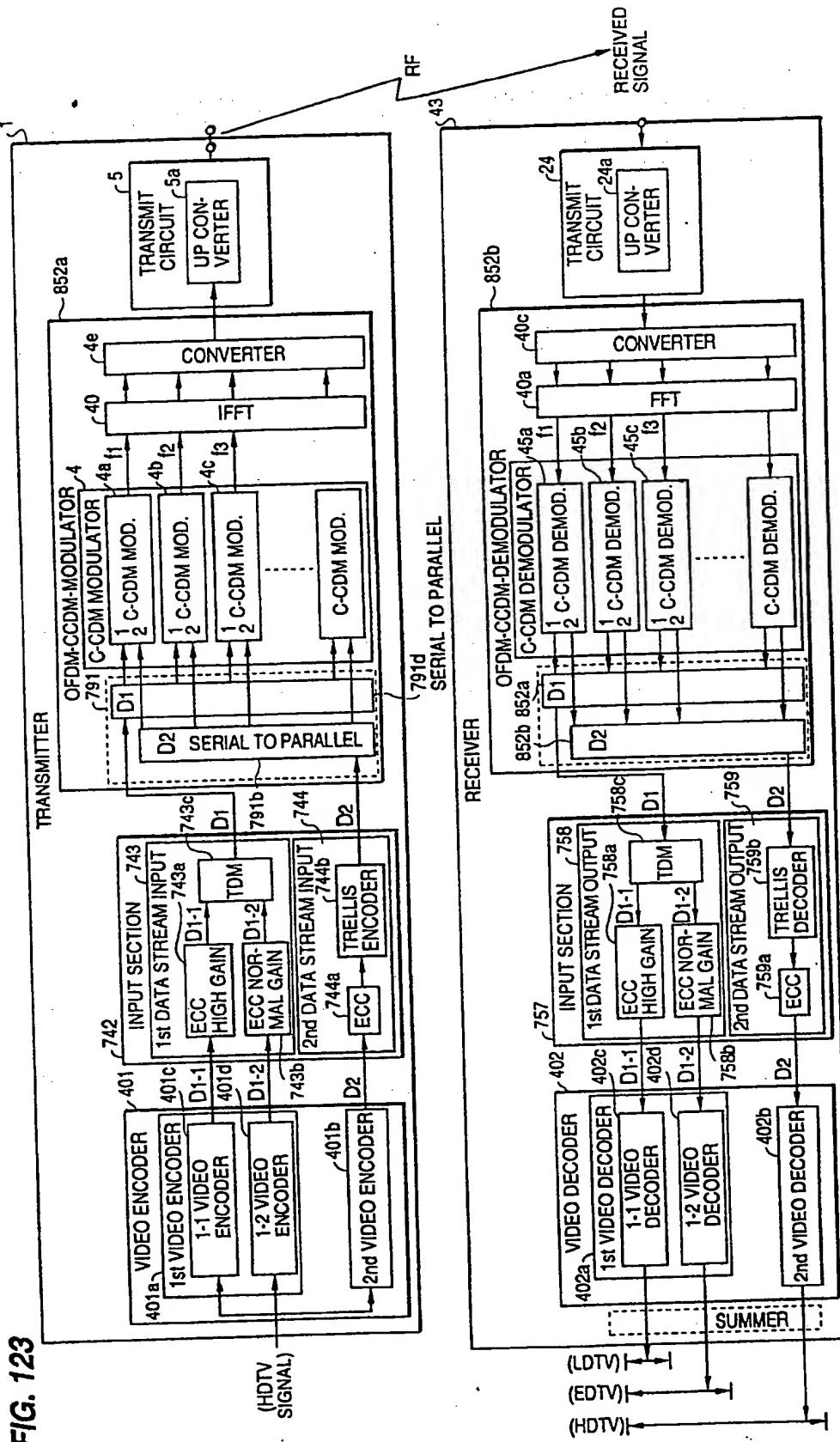


FIG. 122



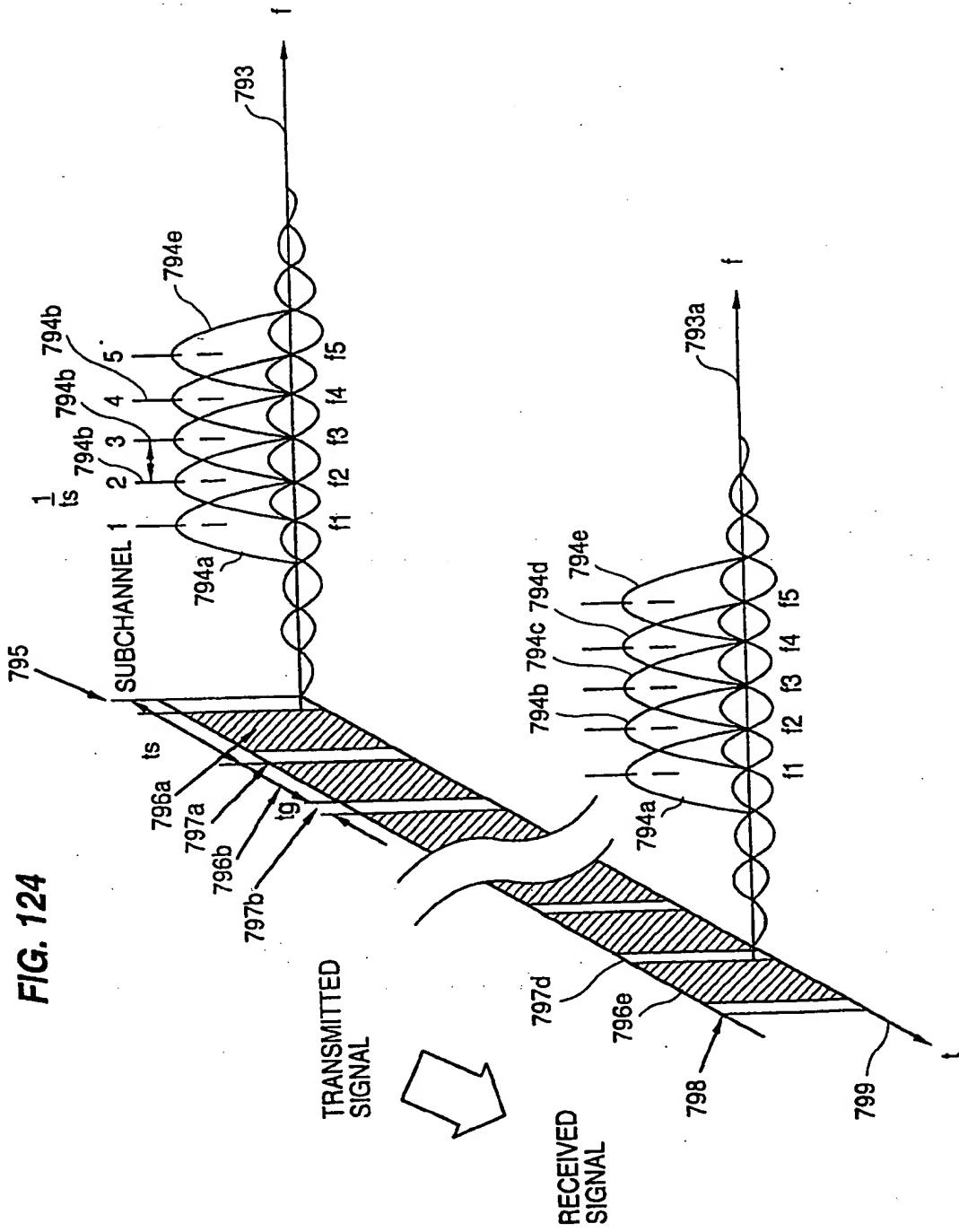


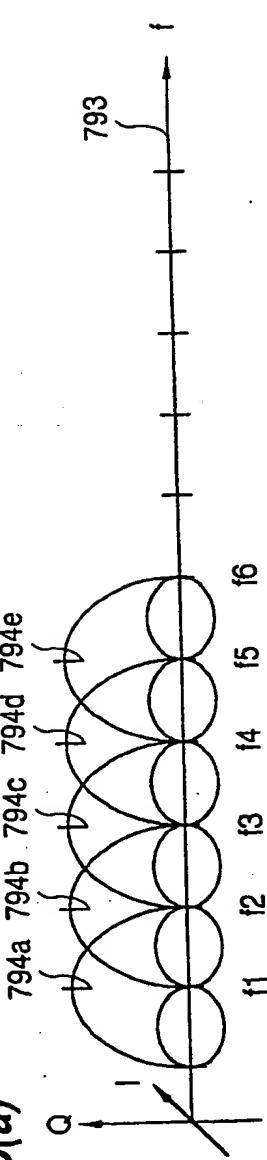
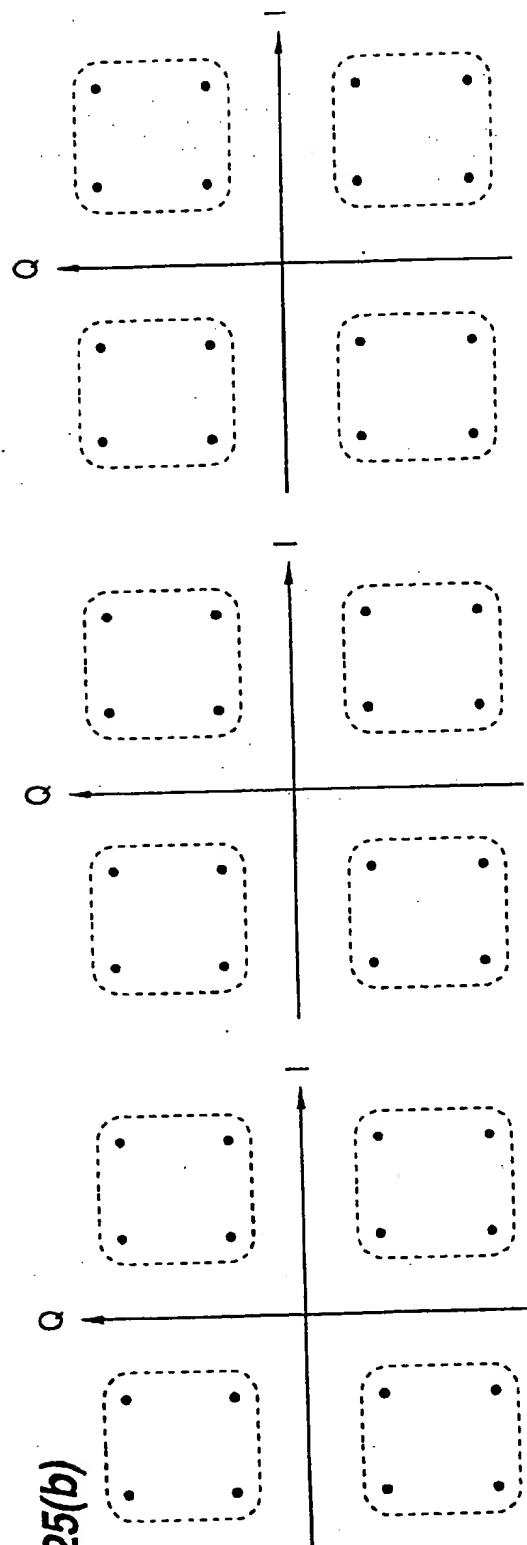
FIG. 125(a)**FIG. 125(b)**

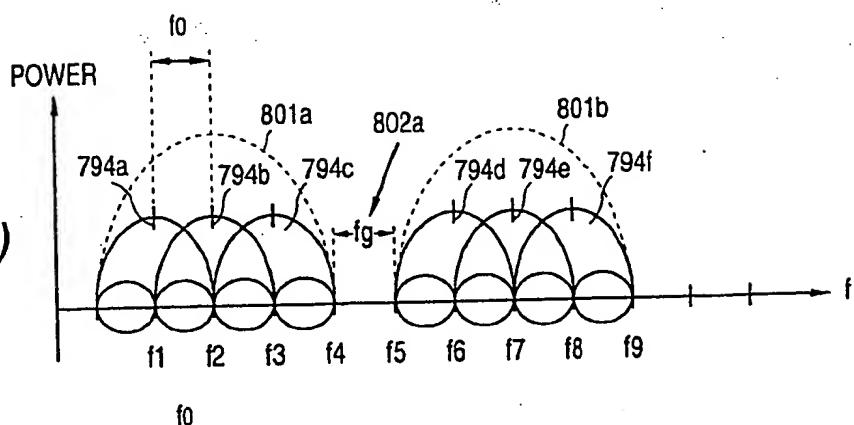
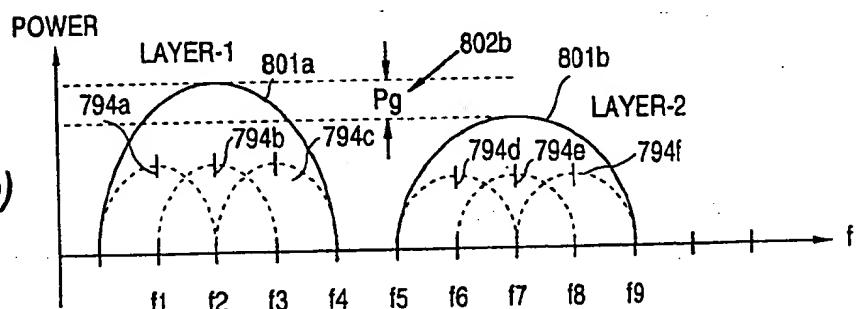
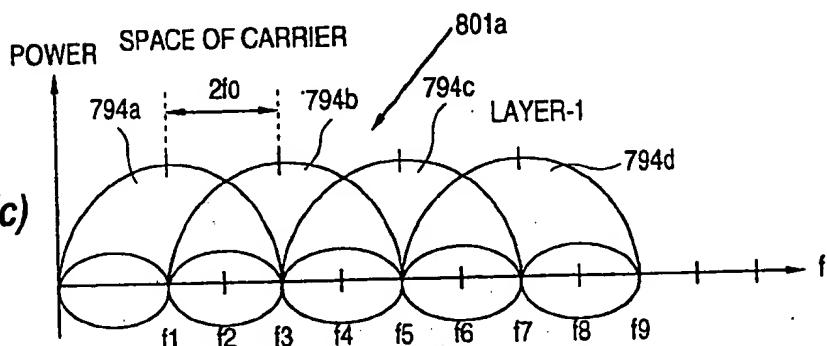
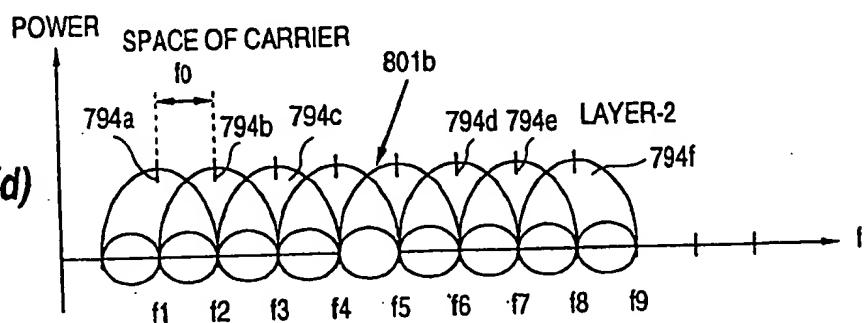
FIG. 126(a)**FIG. 126(b)****FIG. 126(c)****FIG. 126(d)**

FIG. 127

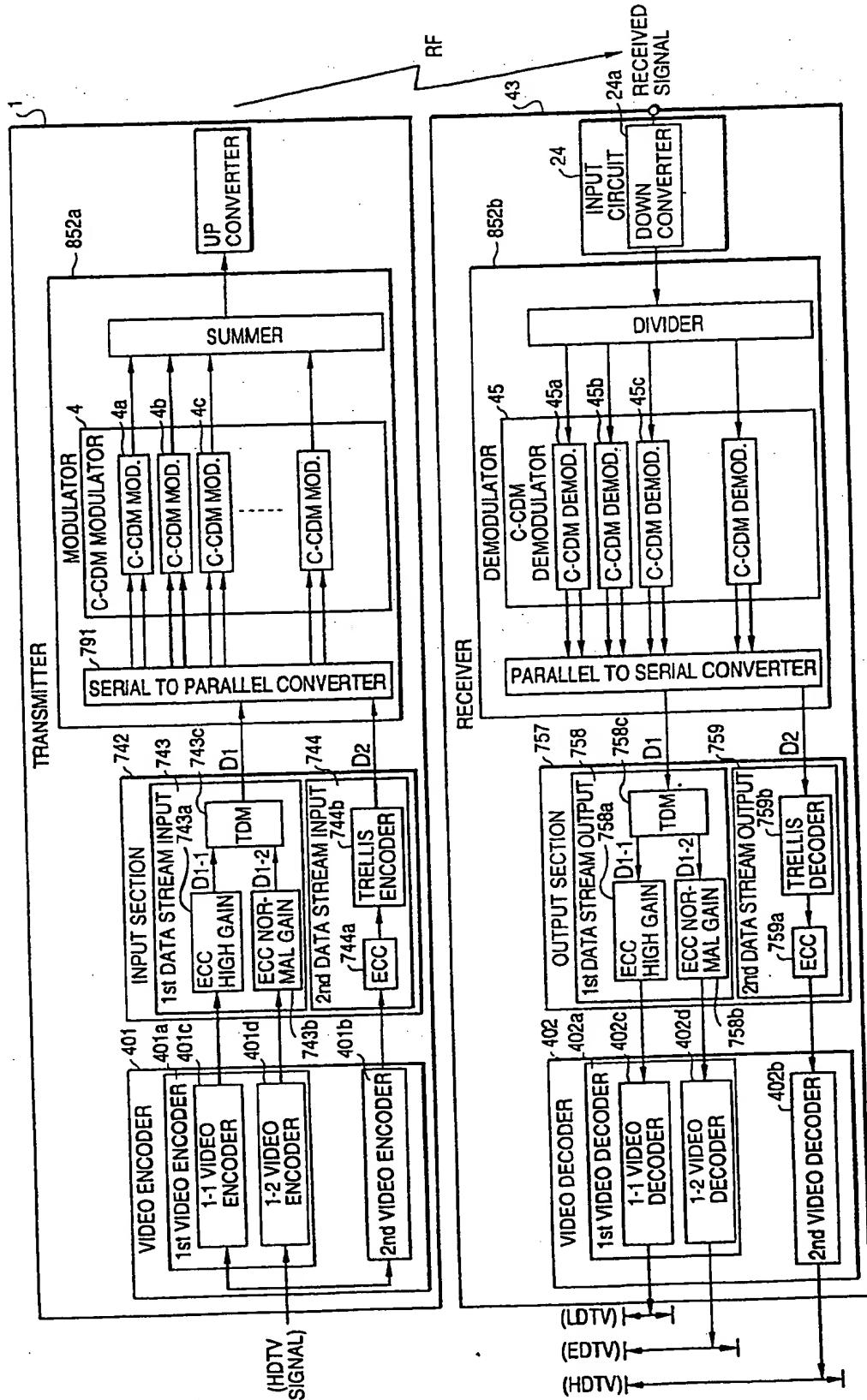


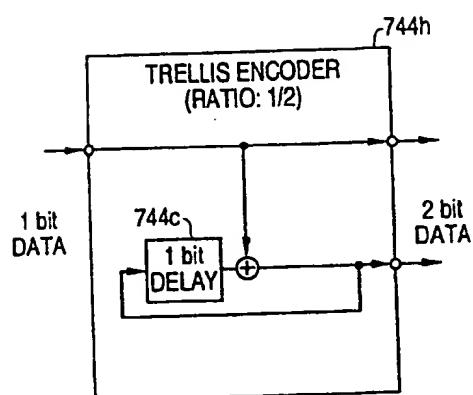
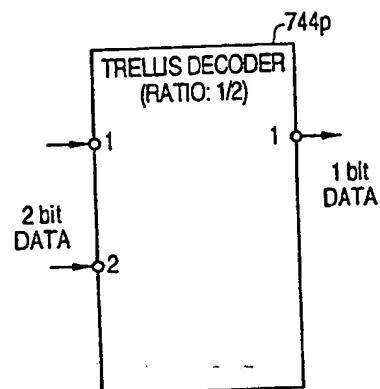
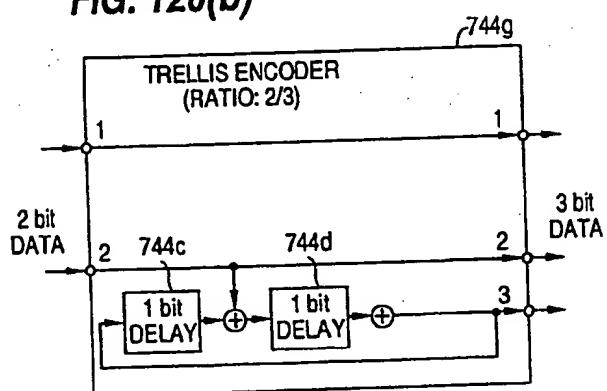
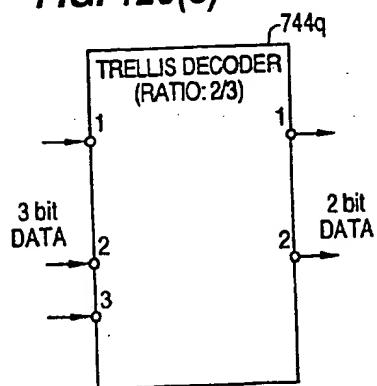
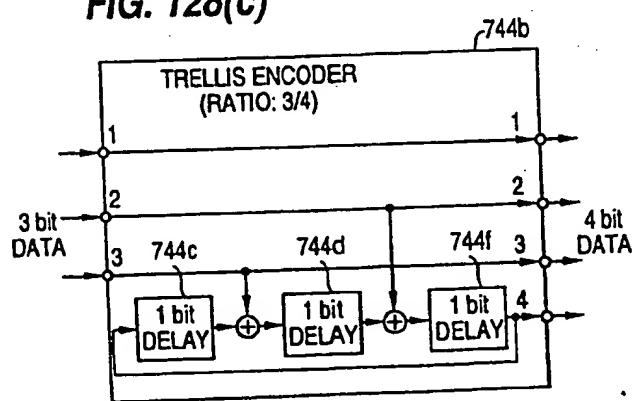
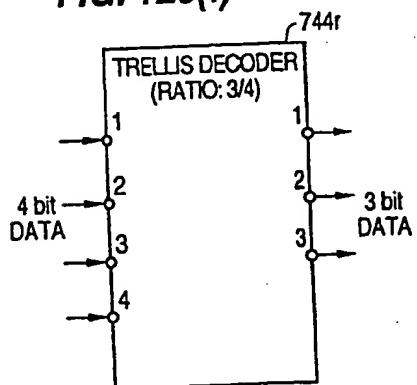
FIG. 128(a)**FIG. 128(d)****FIG. 128(b)****FIG. 128(e)****FIG. 128(c)****FIG. 128(f)**

FIG. 129

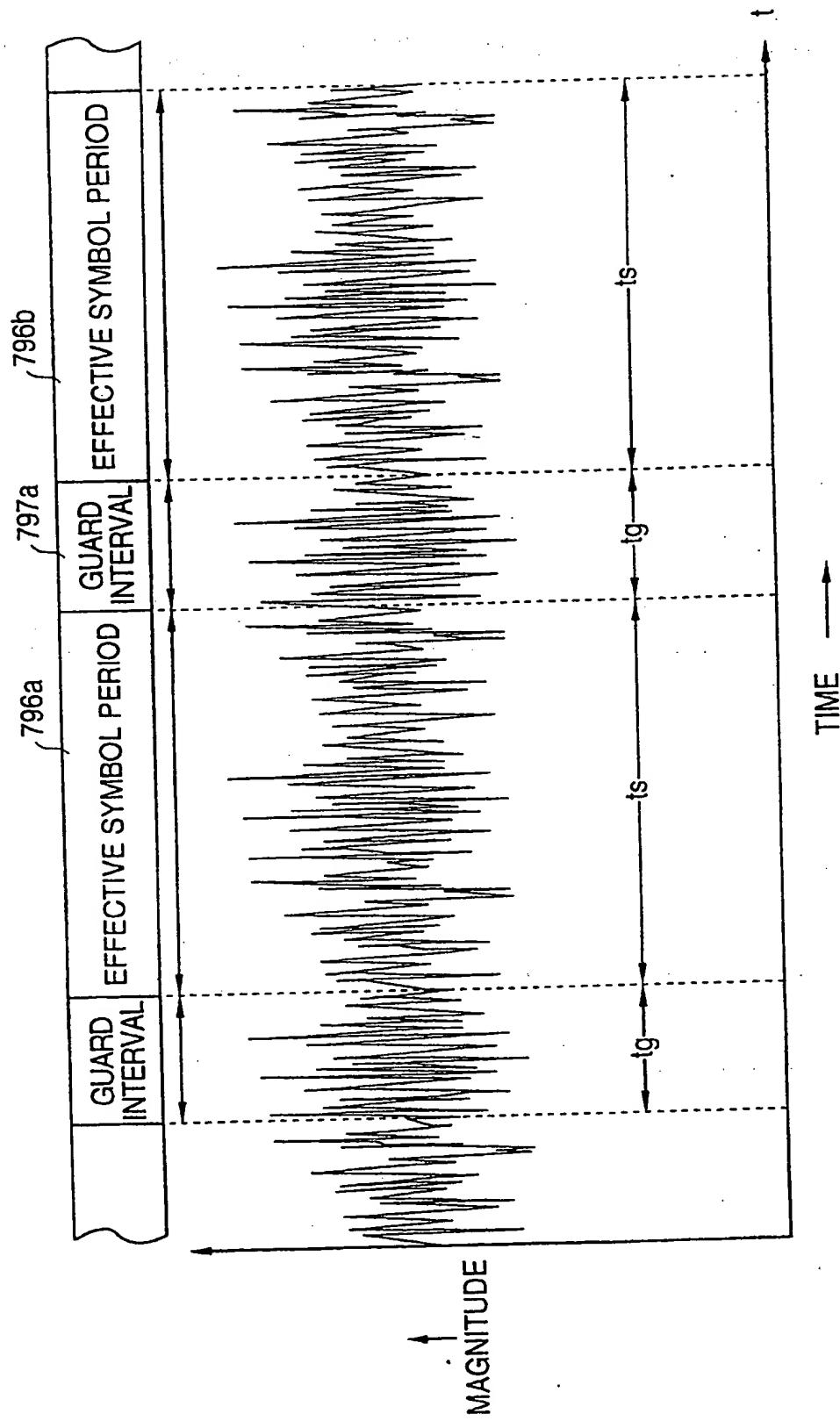


FIG. 130

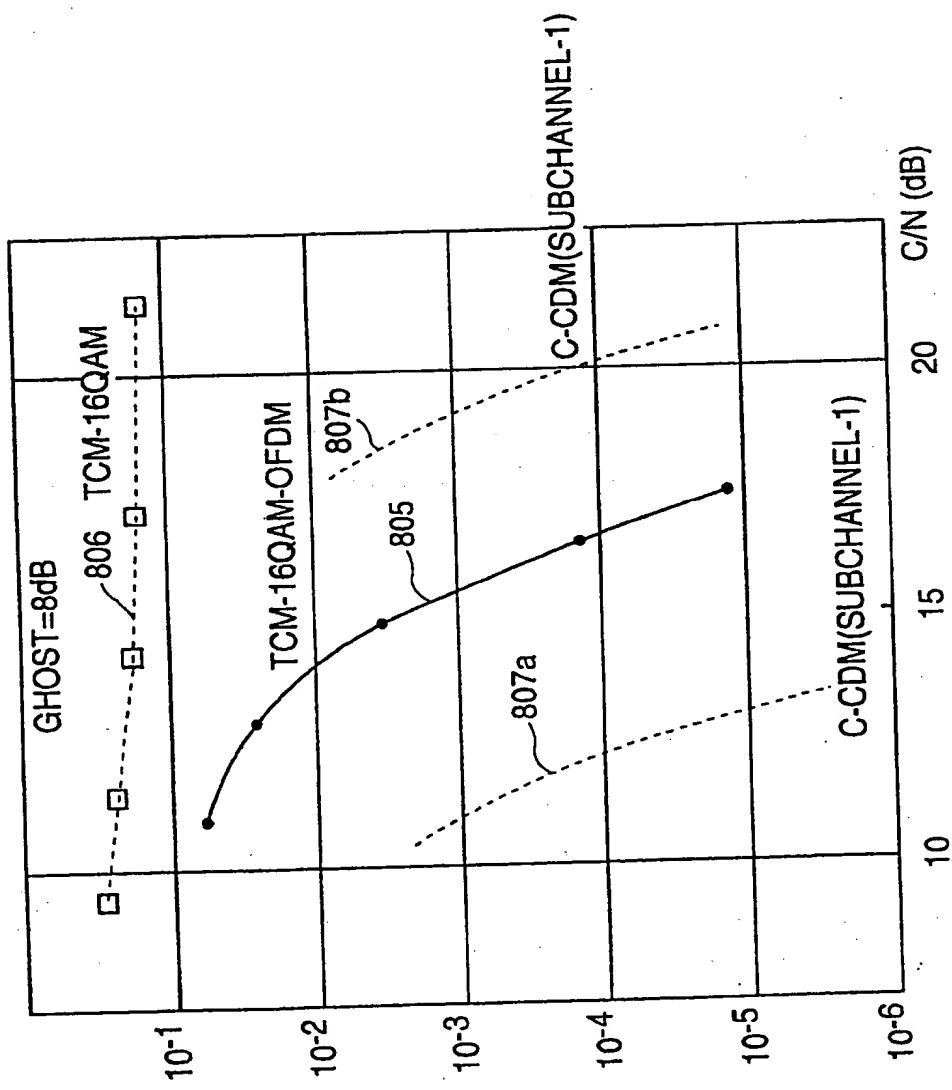


FIG. 131

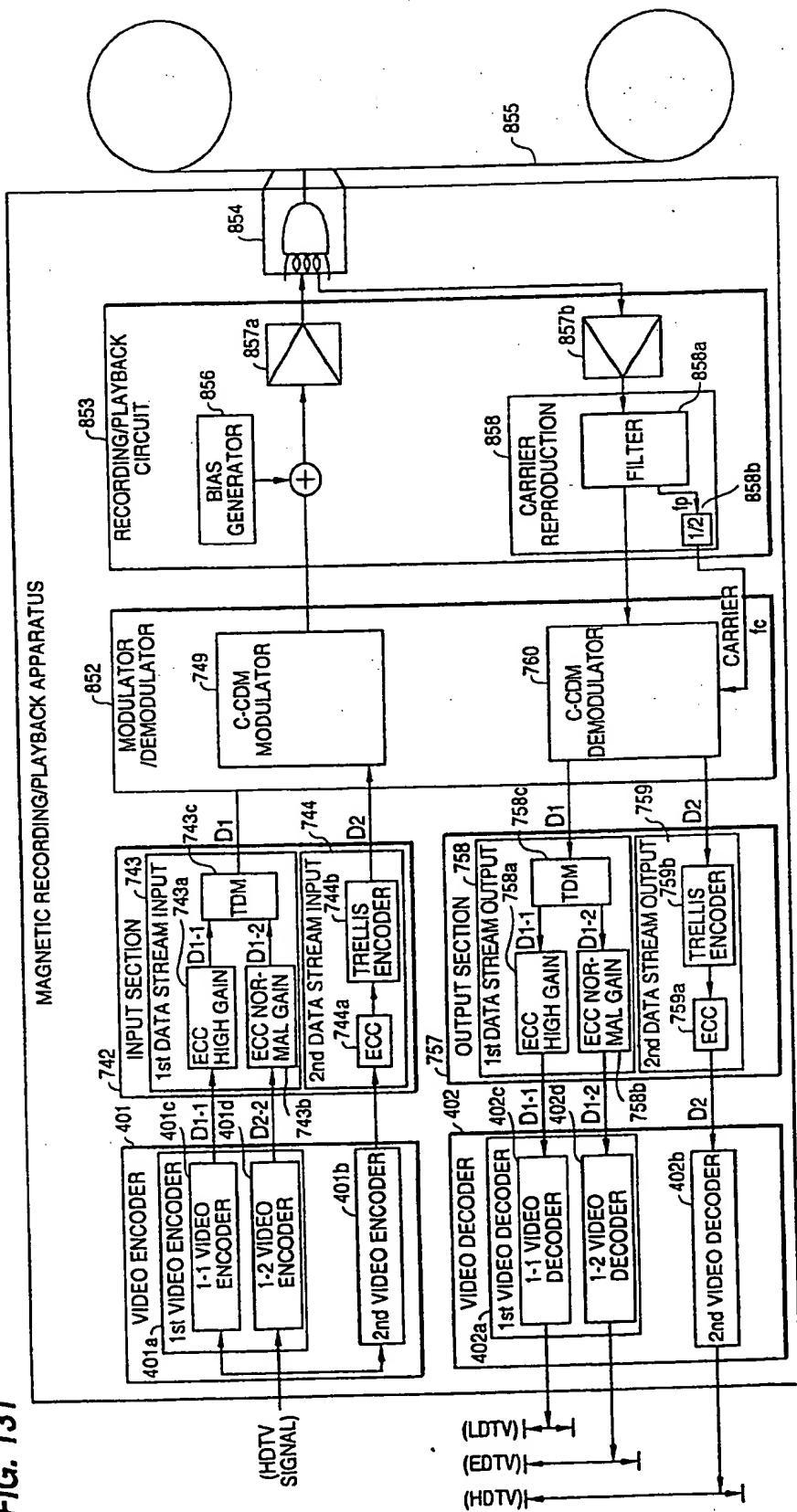
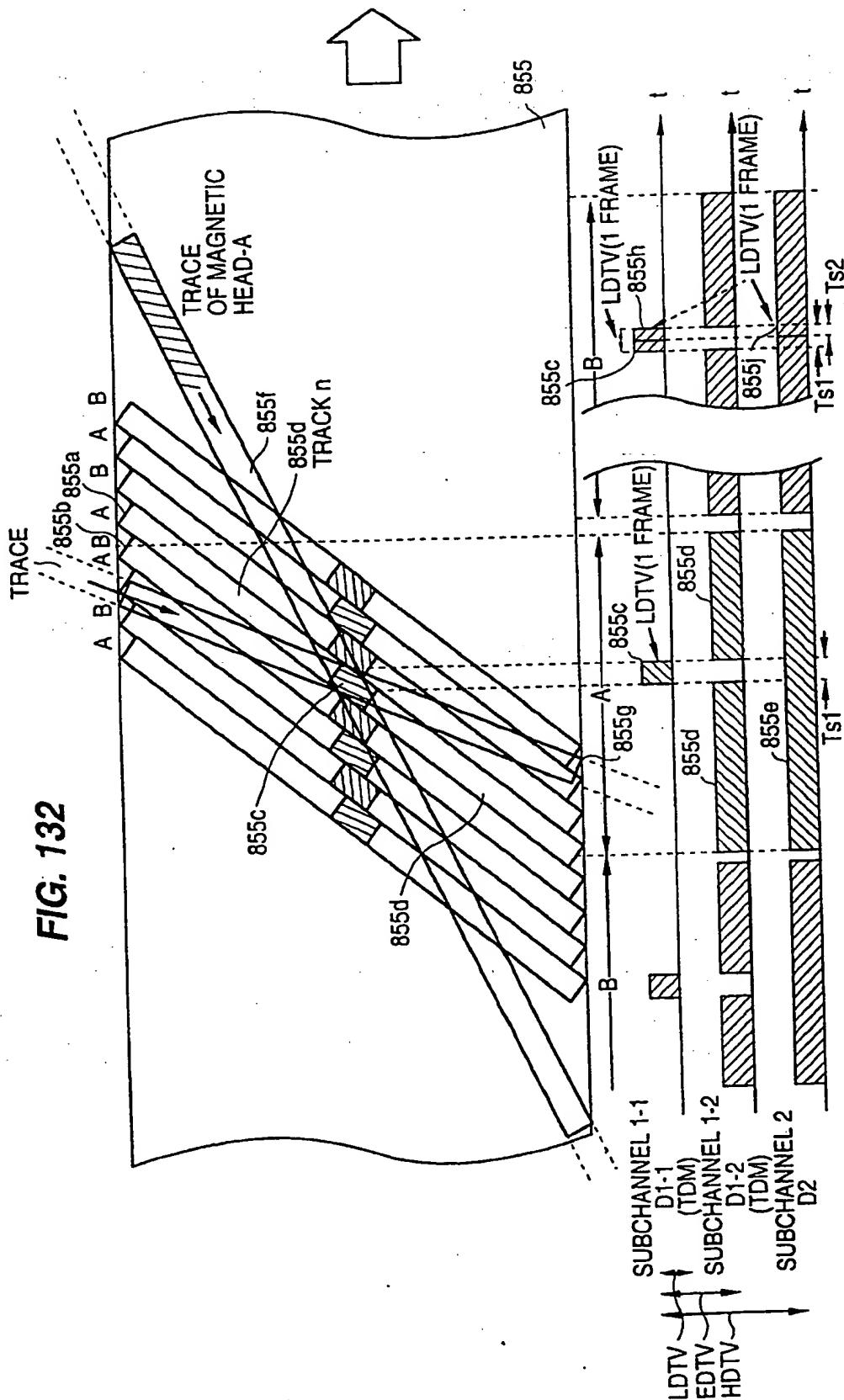


FIG. 132



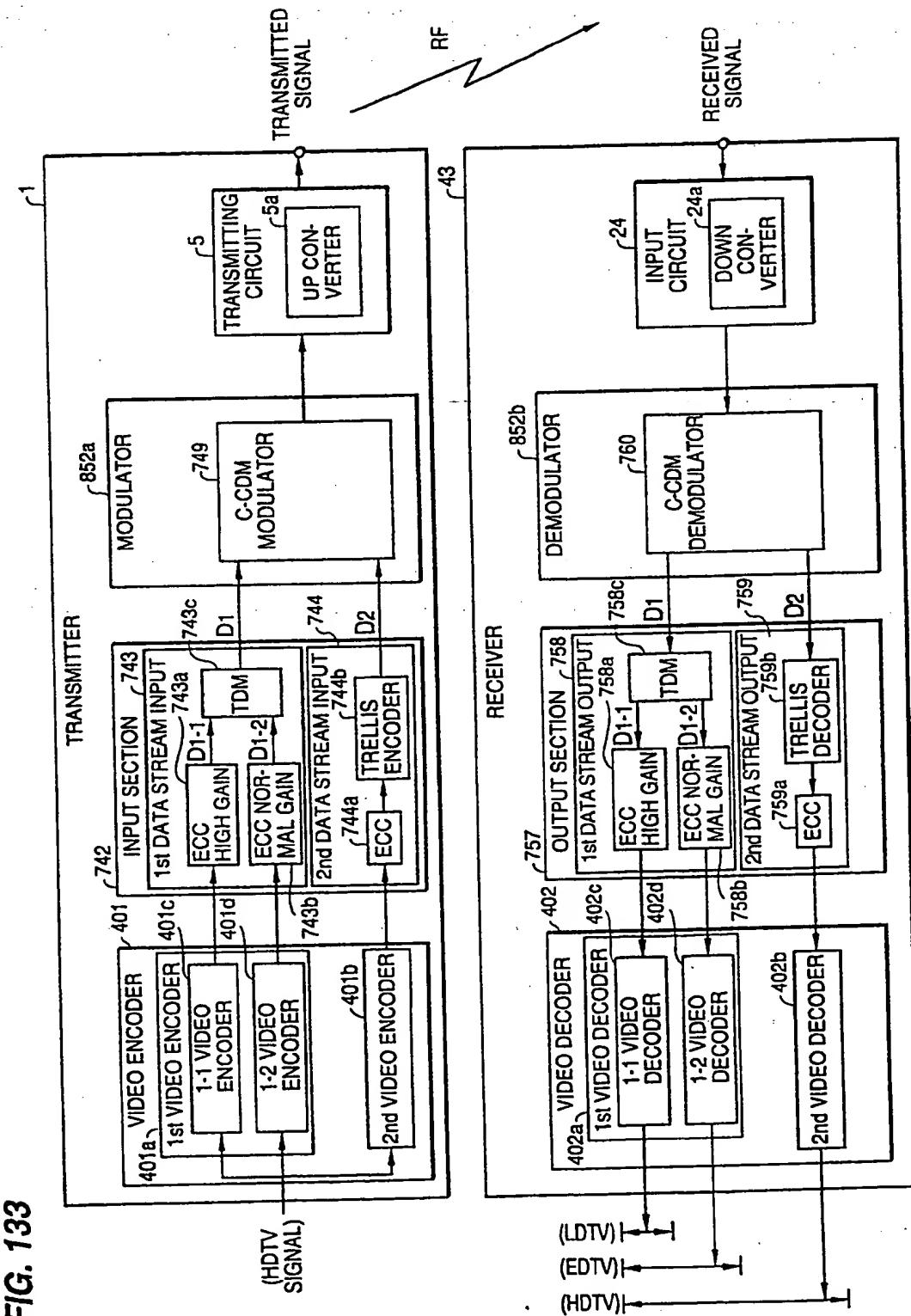


FIG. 133

FIG. 134

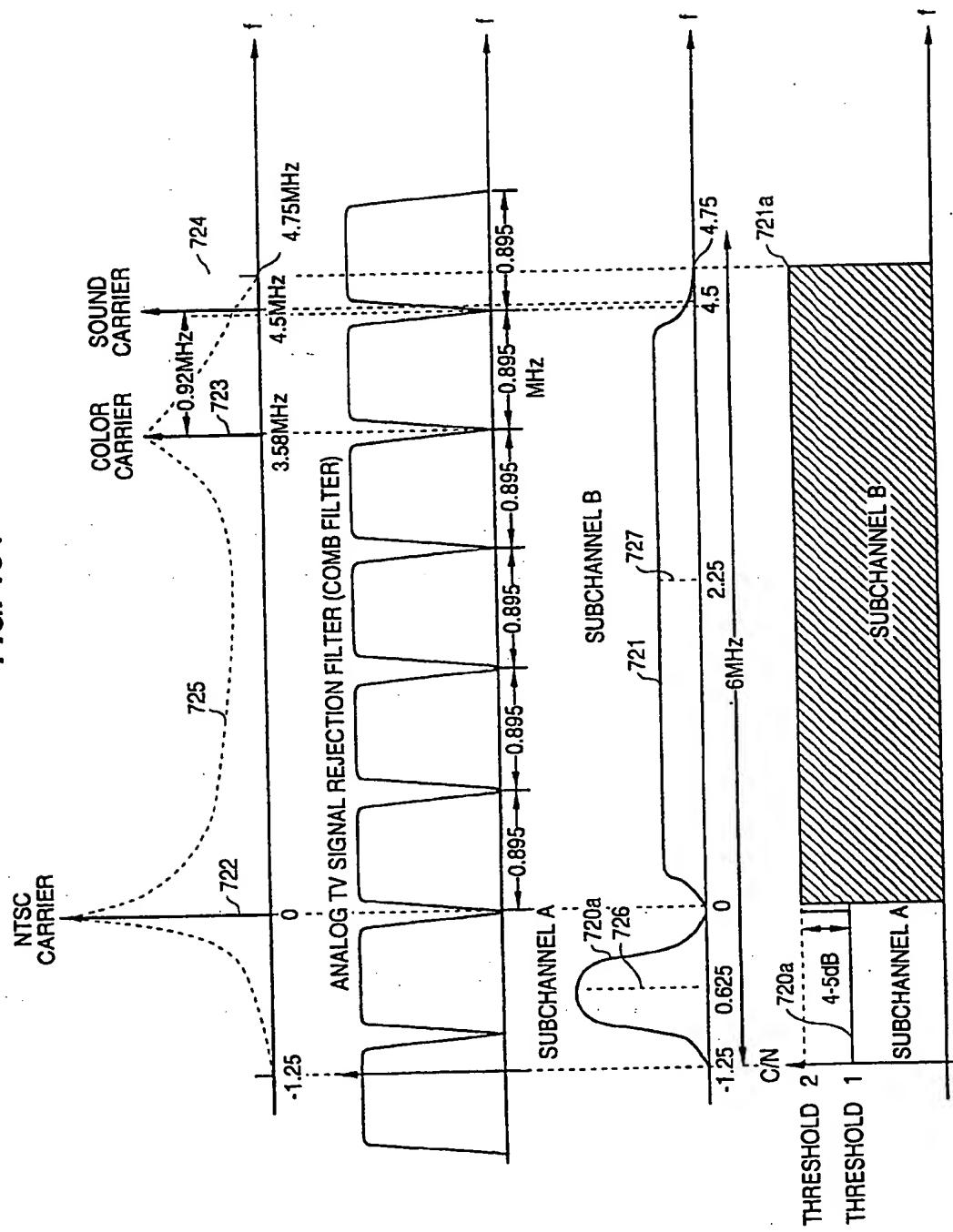


FIG. 135

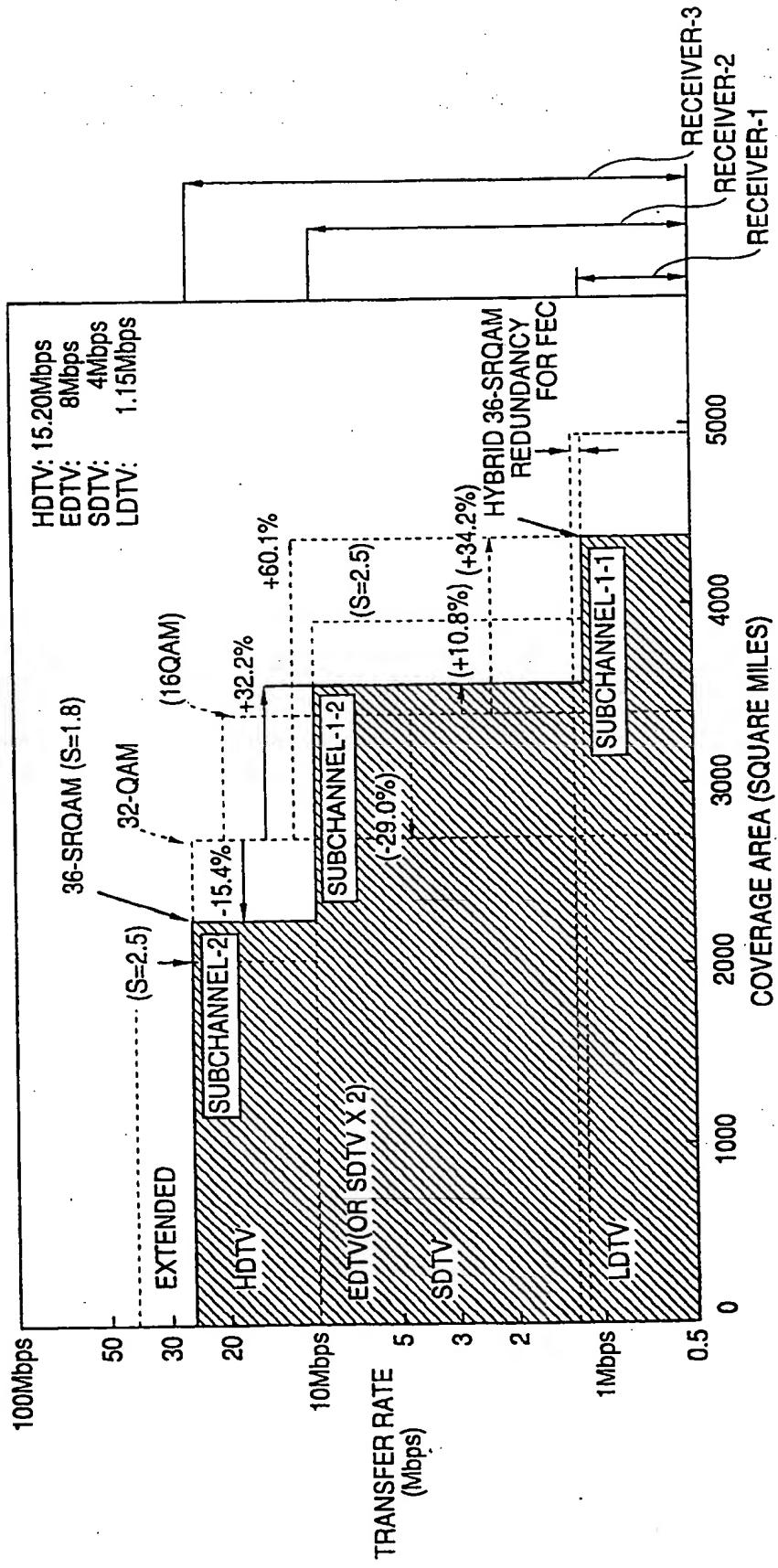
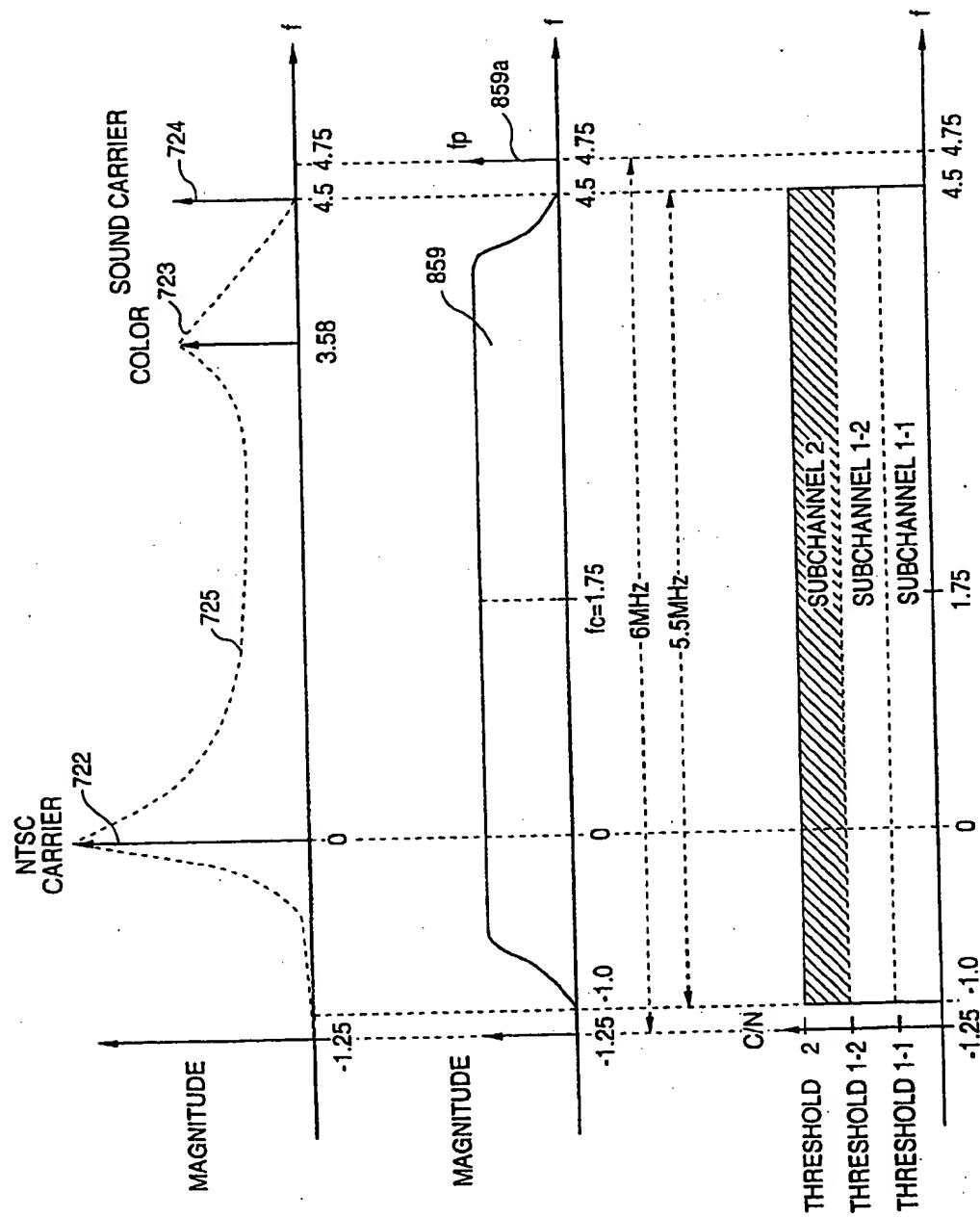
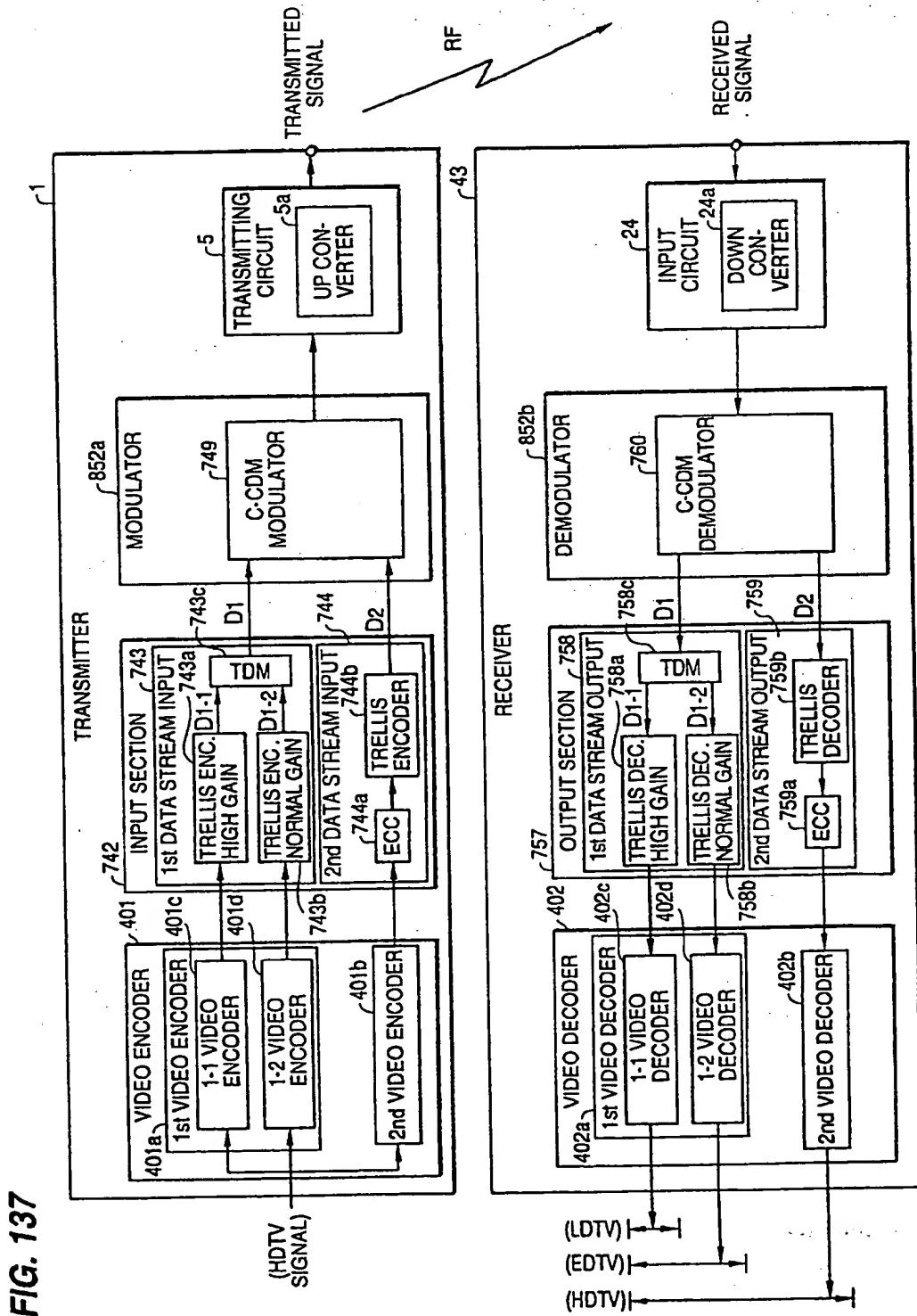


FIG. 136





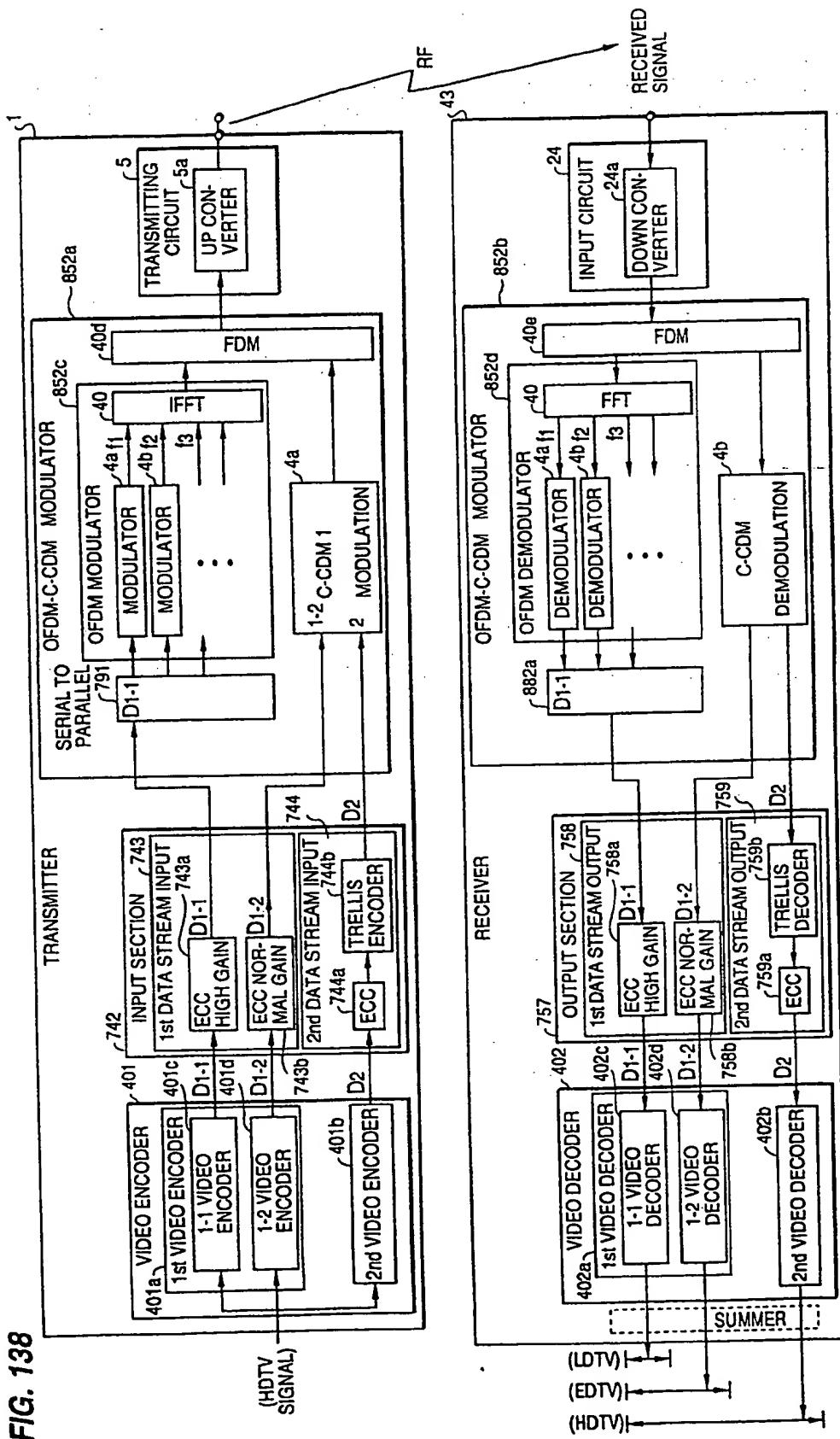


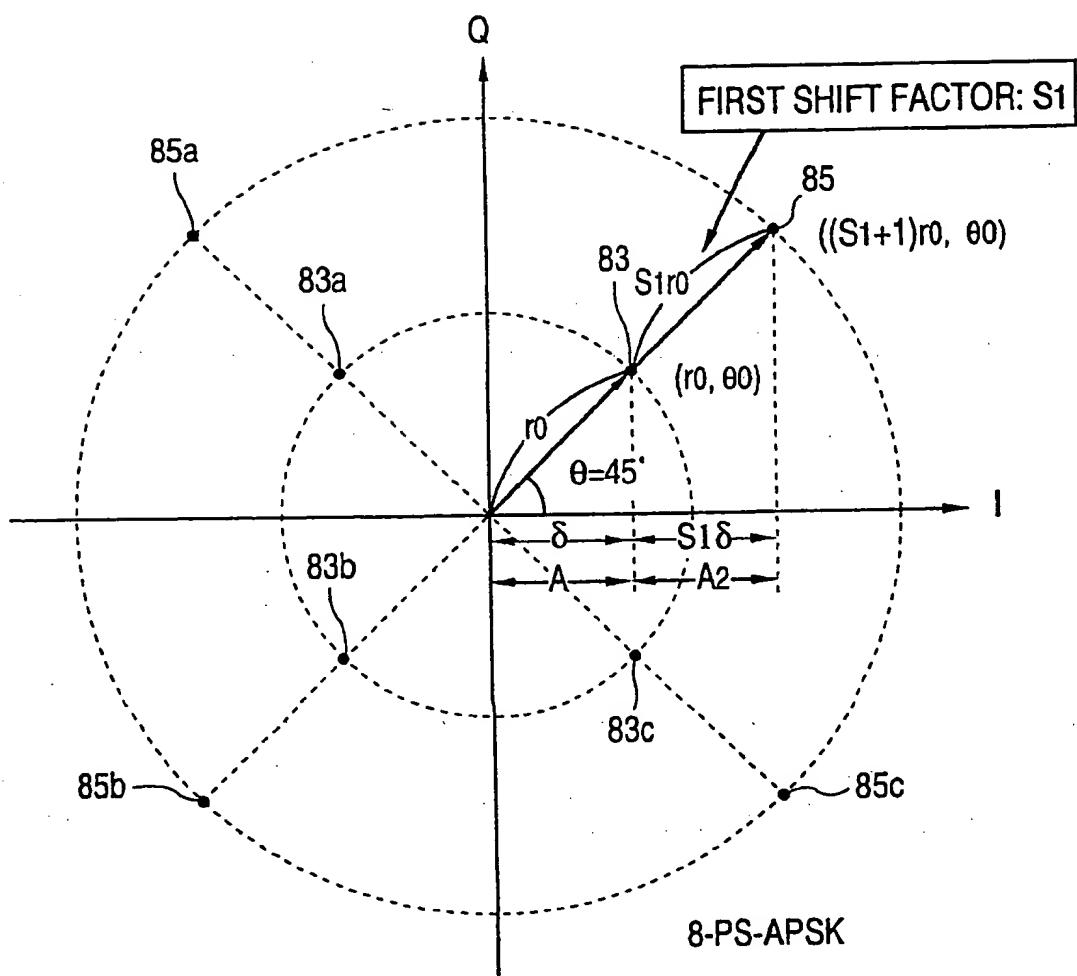
FIG. 139

FIG. 140

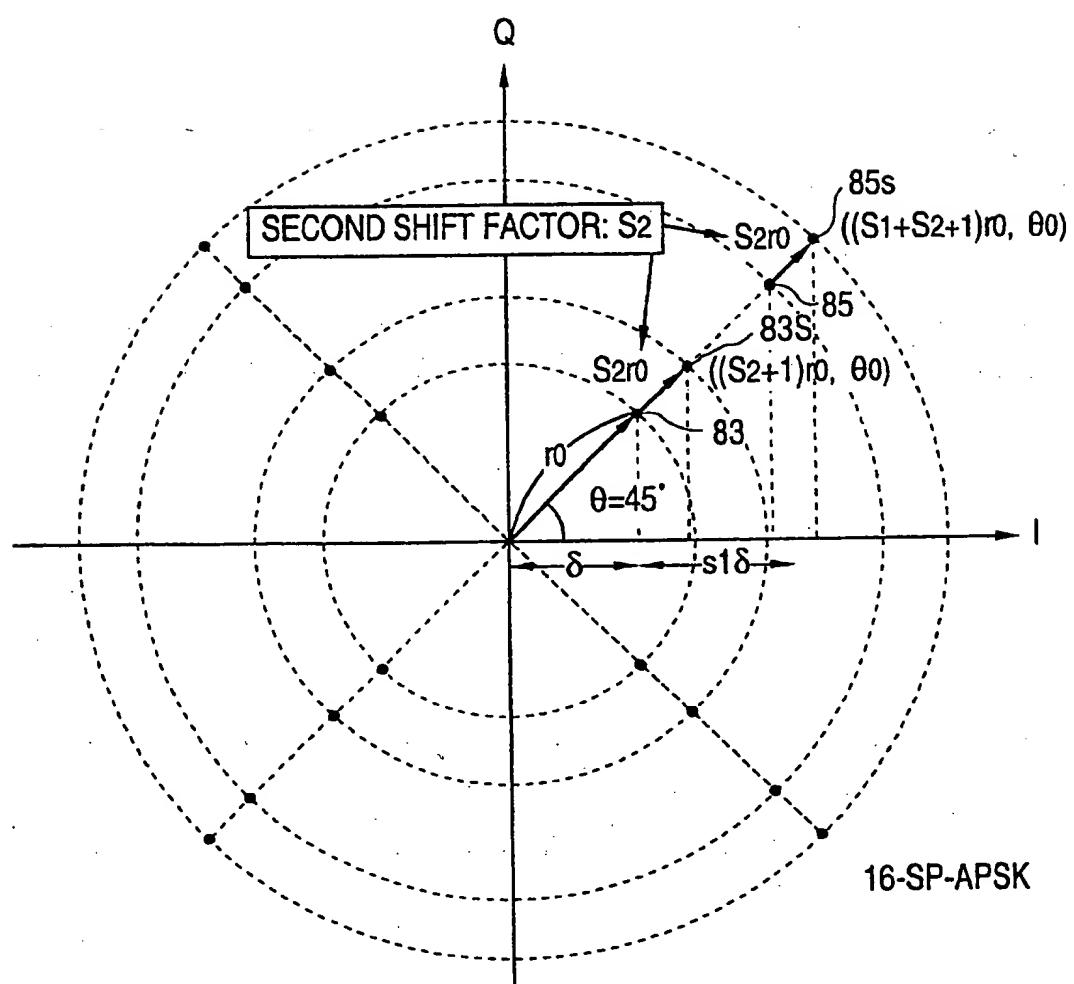


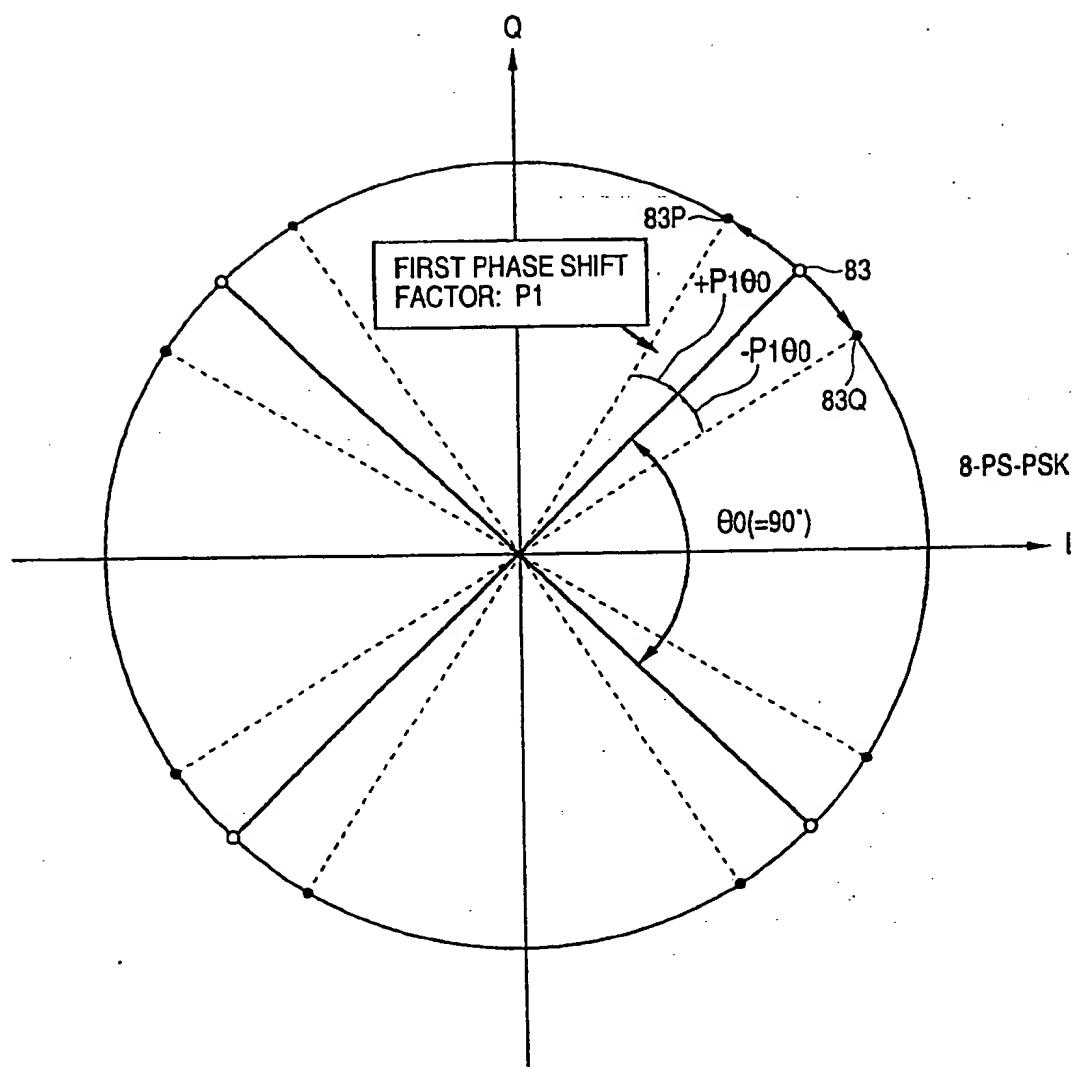
FIG. 141

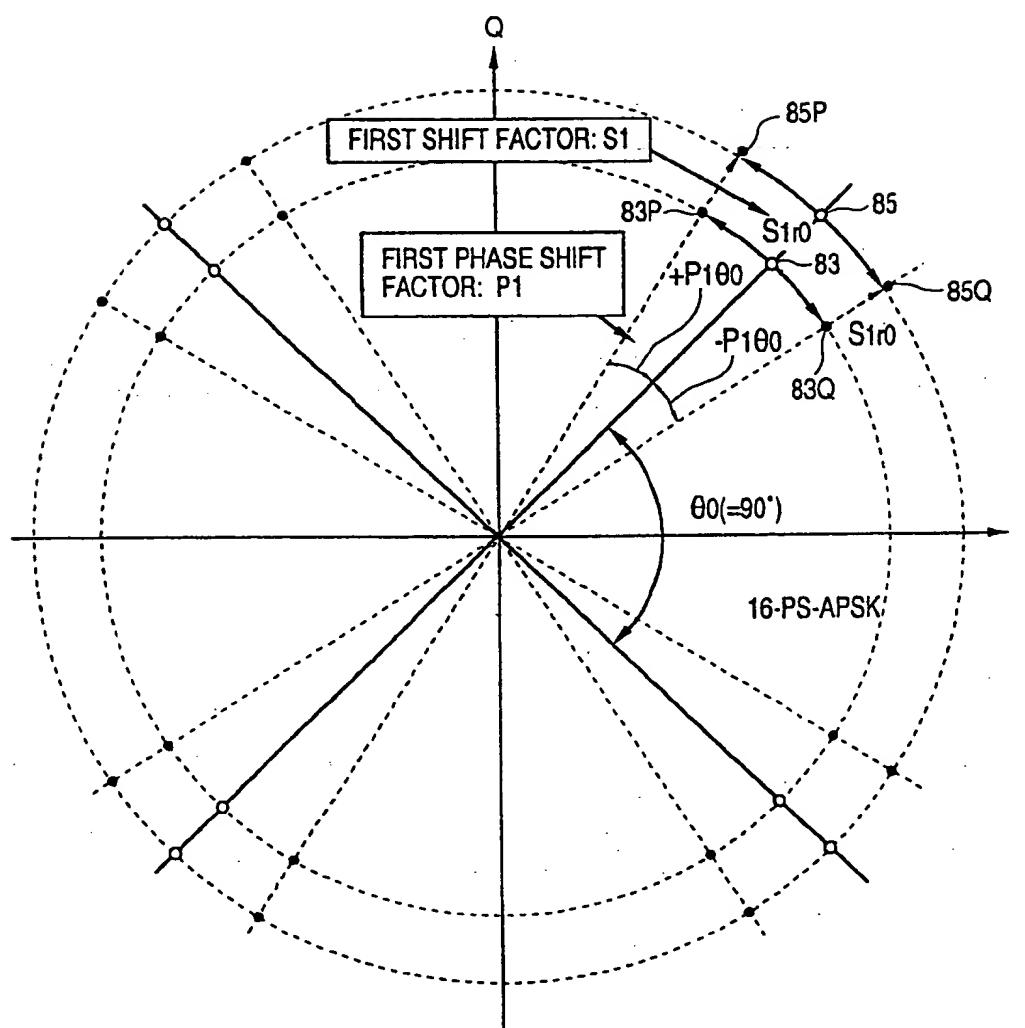
FIG. 142

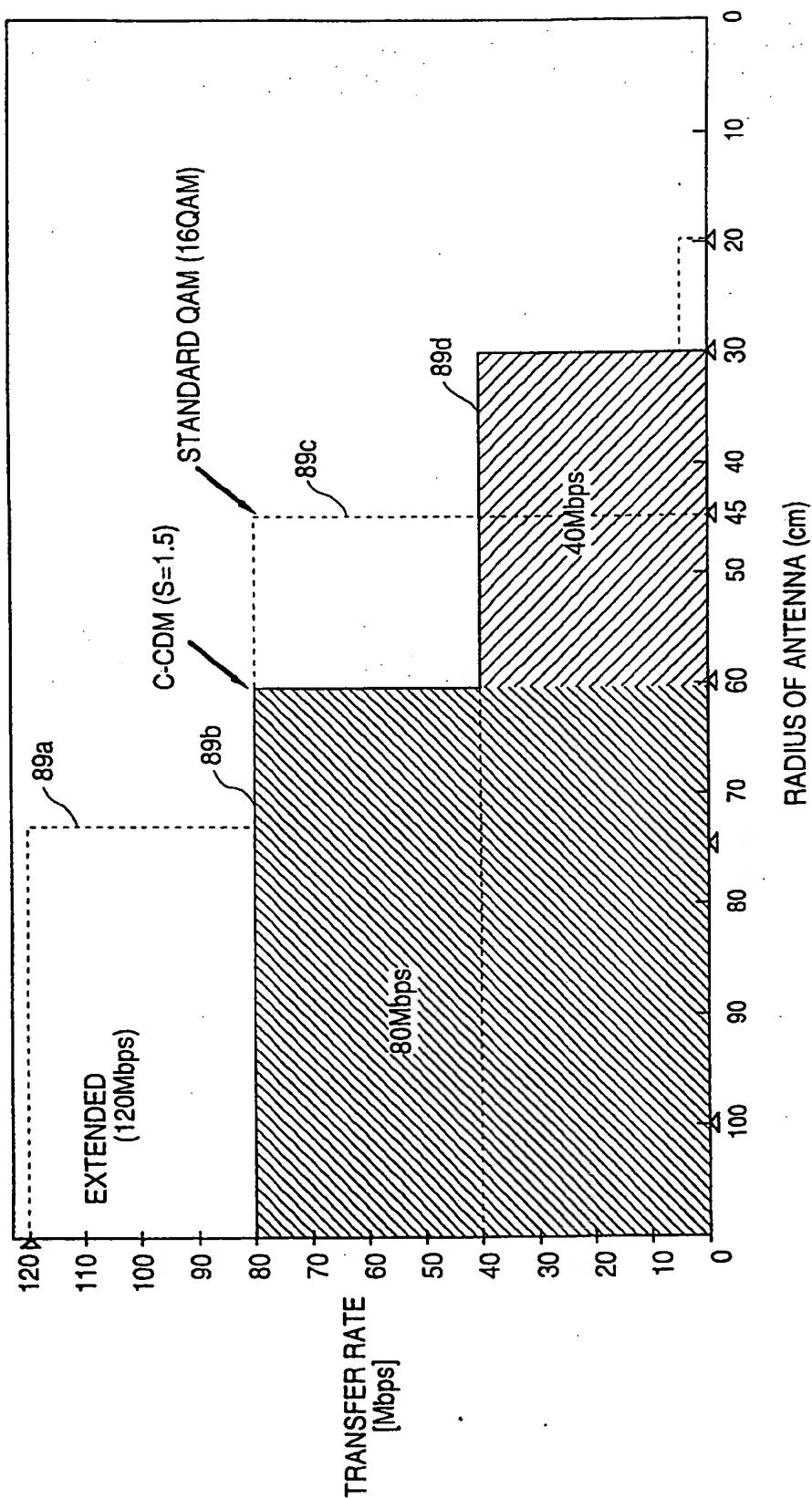
FIG. 143

FIG. 144

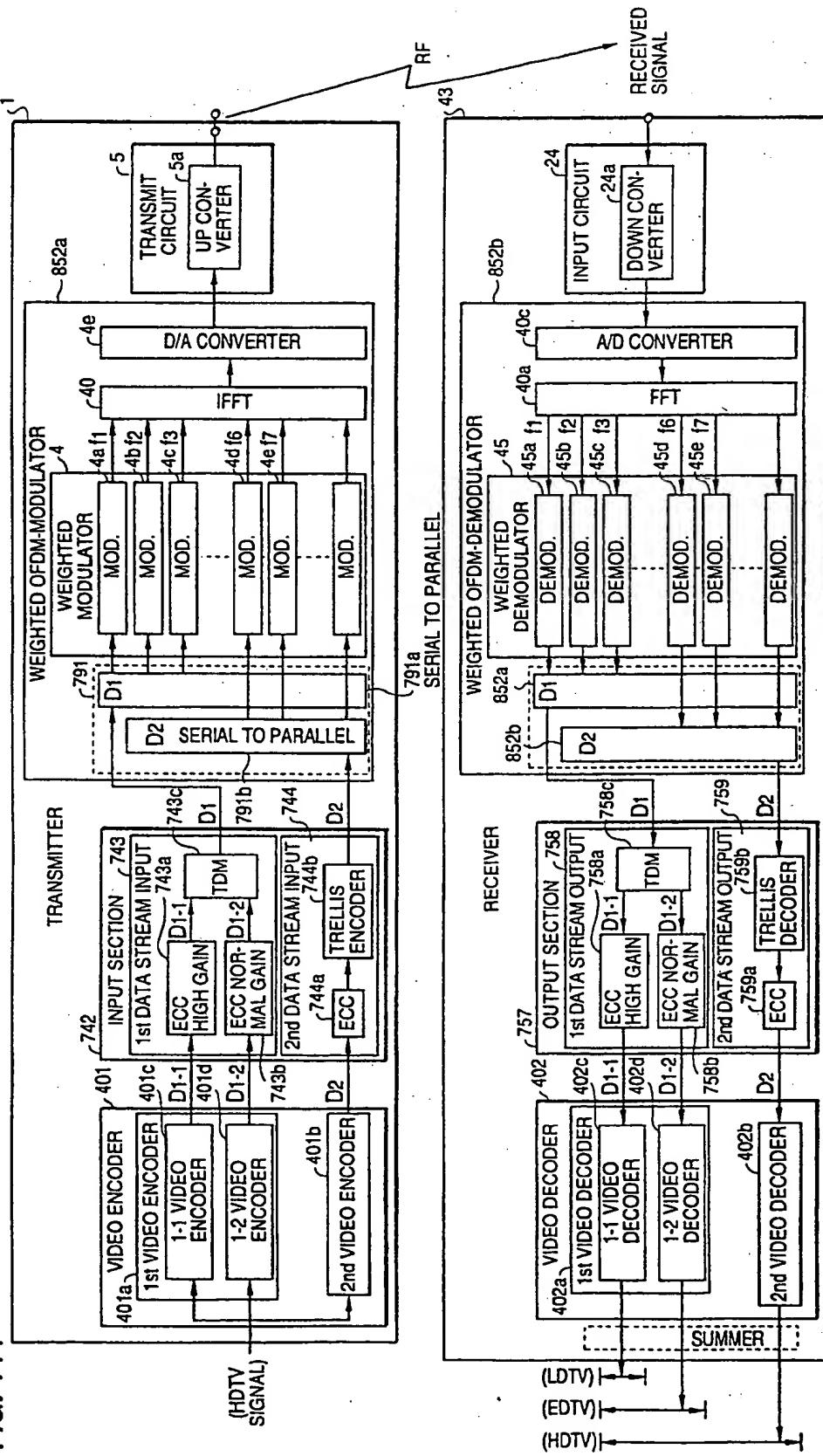
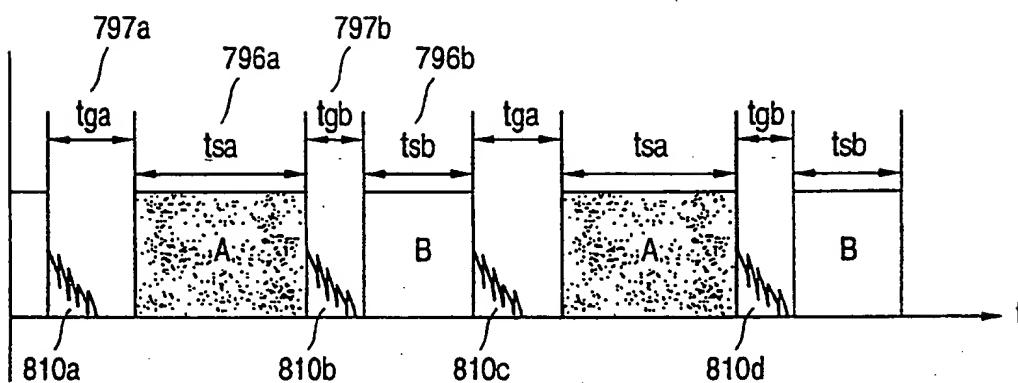
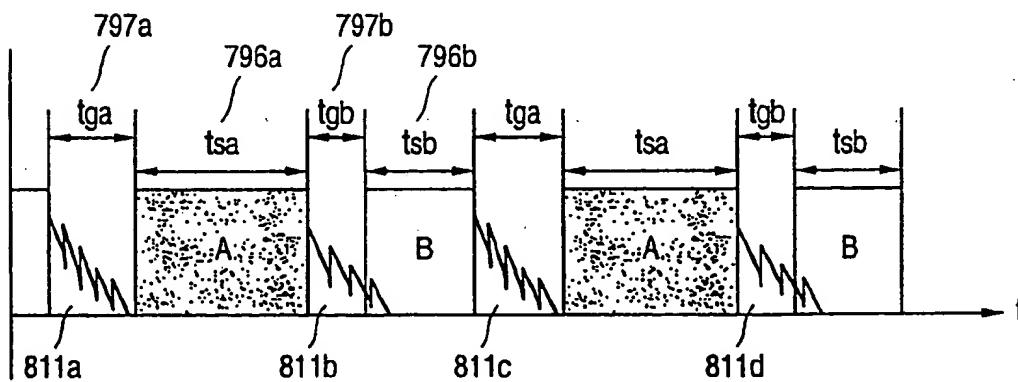


FIG. 145(a)**FIG. 145(b)**

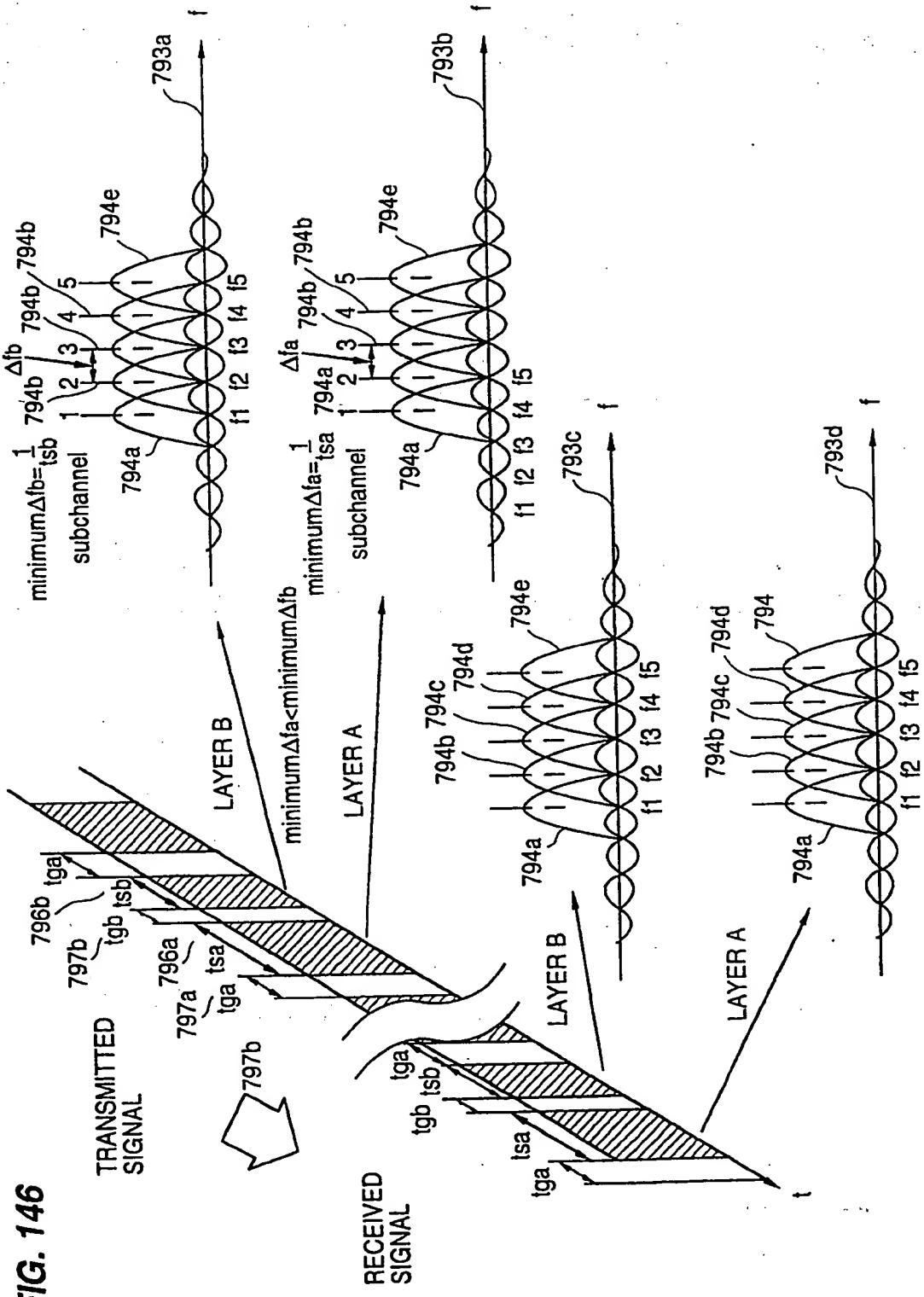


FIG. 147

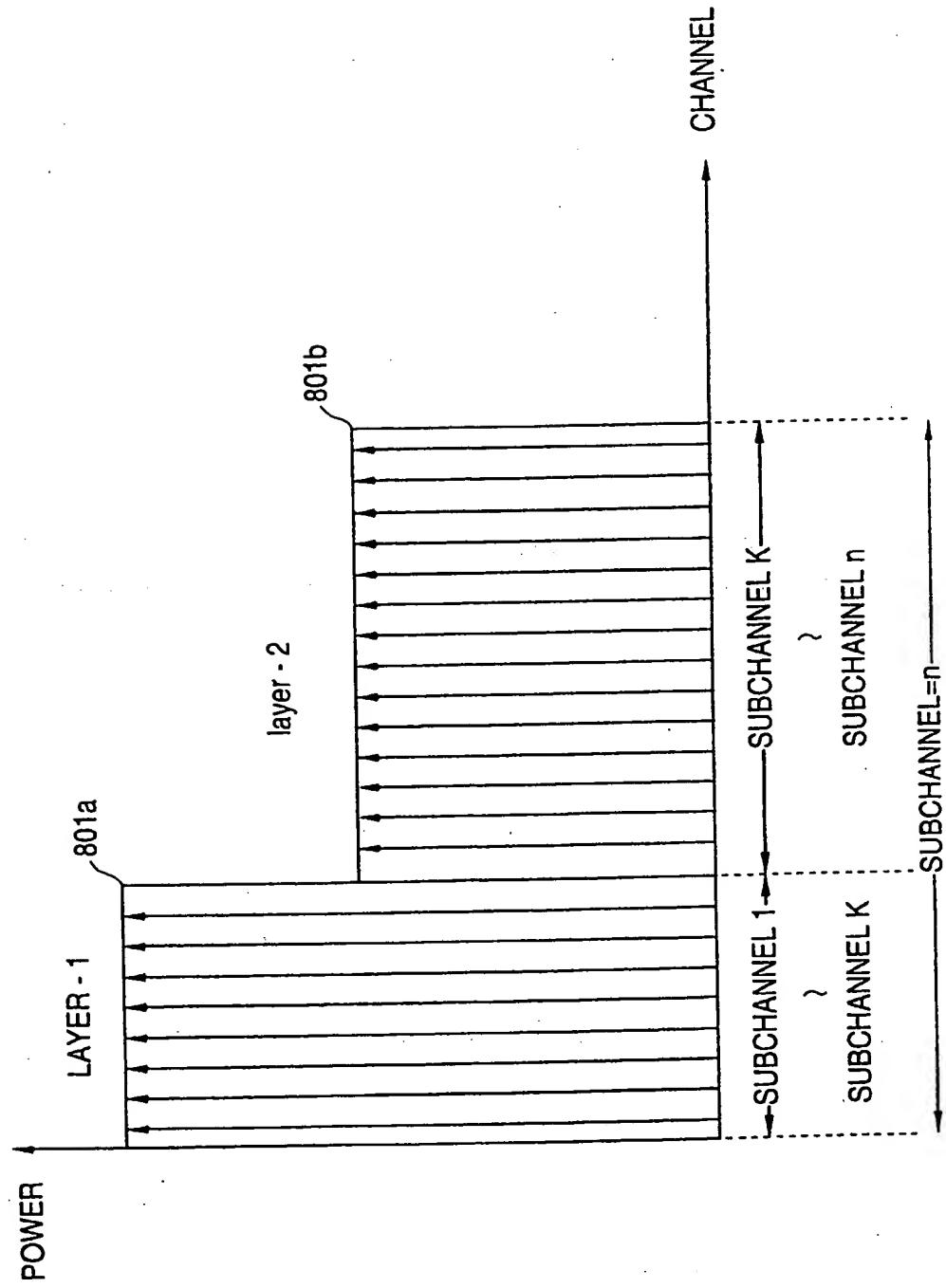
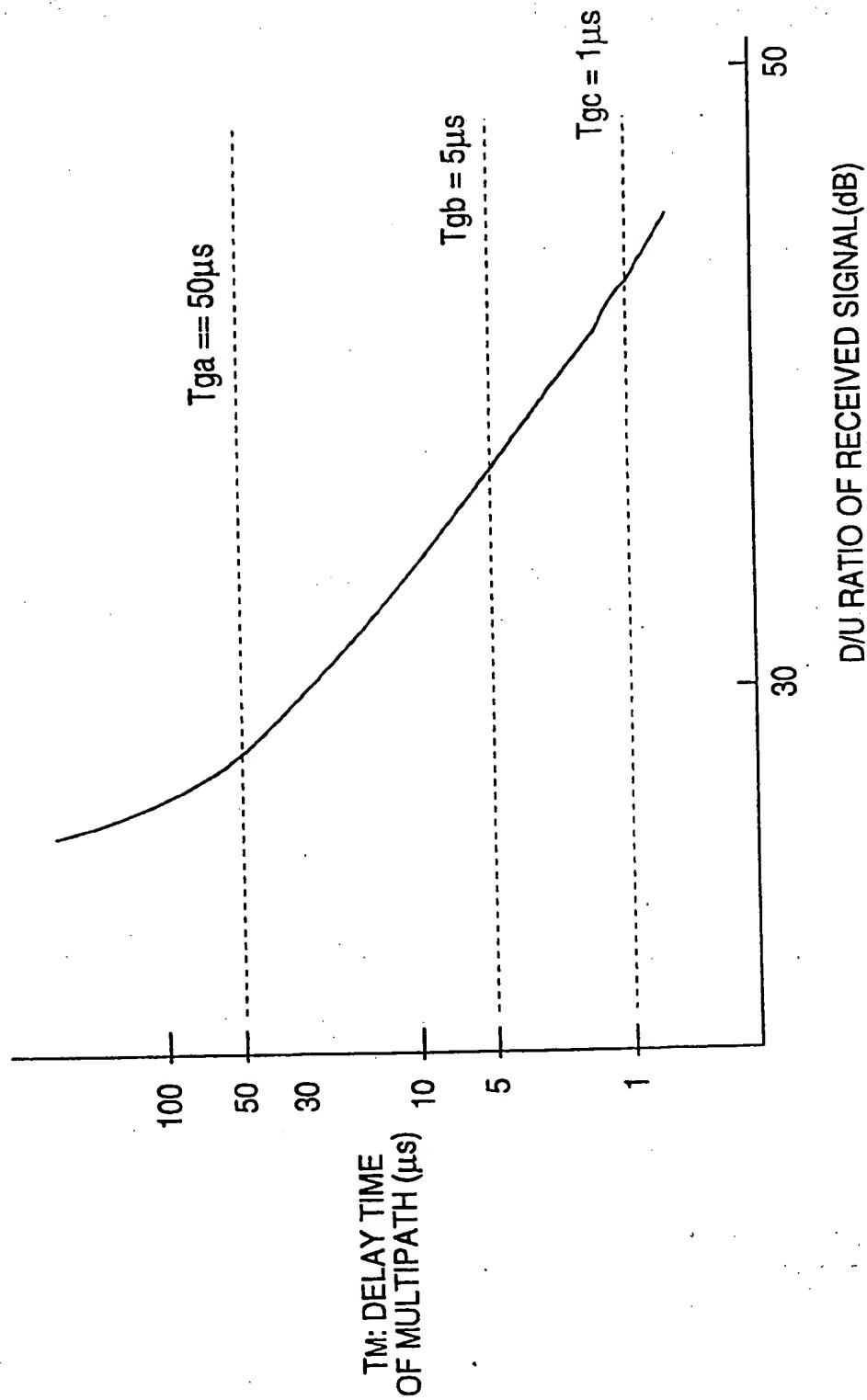


FIG. 148

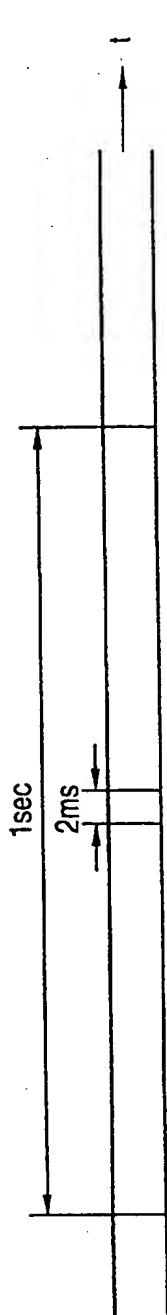


FIG. 149(a)

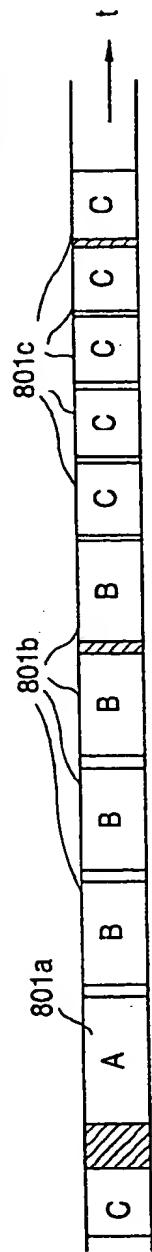
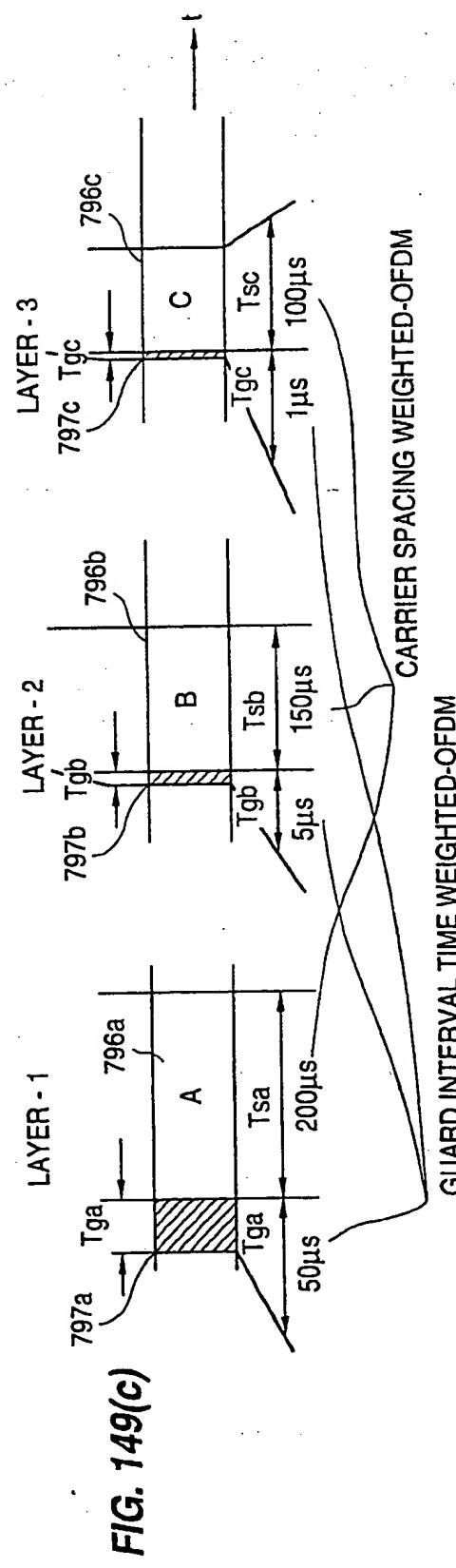


FIG. 149(b)



GUARD INTERVAL TIME WEIGHTED-OFDM

FIG. 150

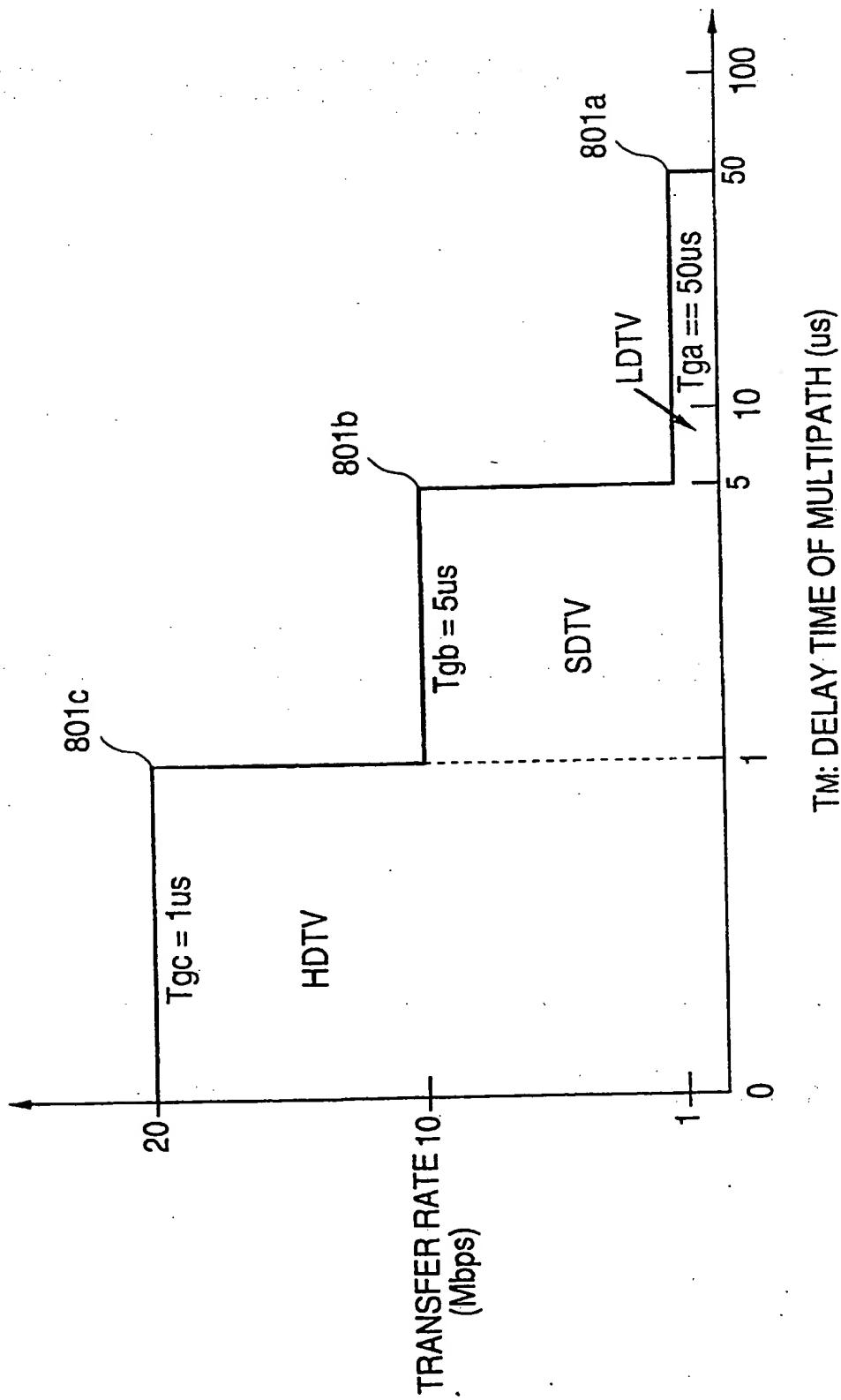


FIG. 151

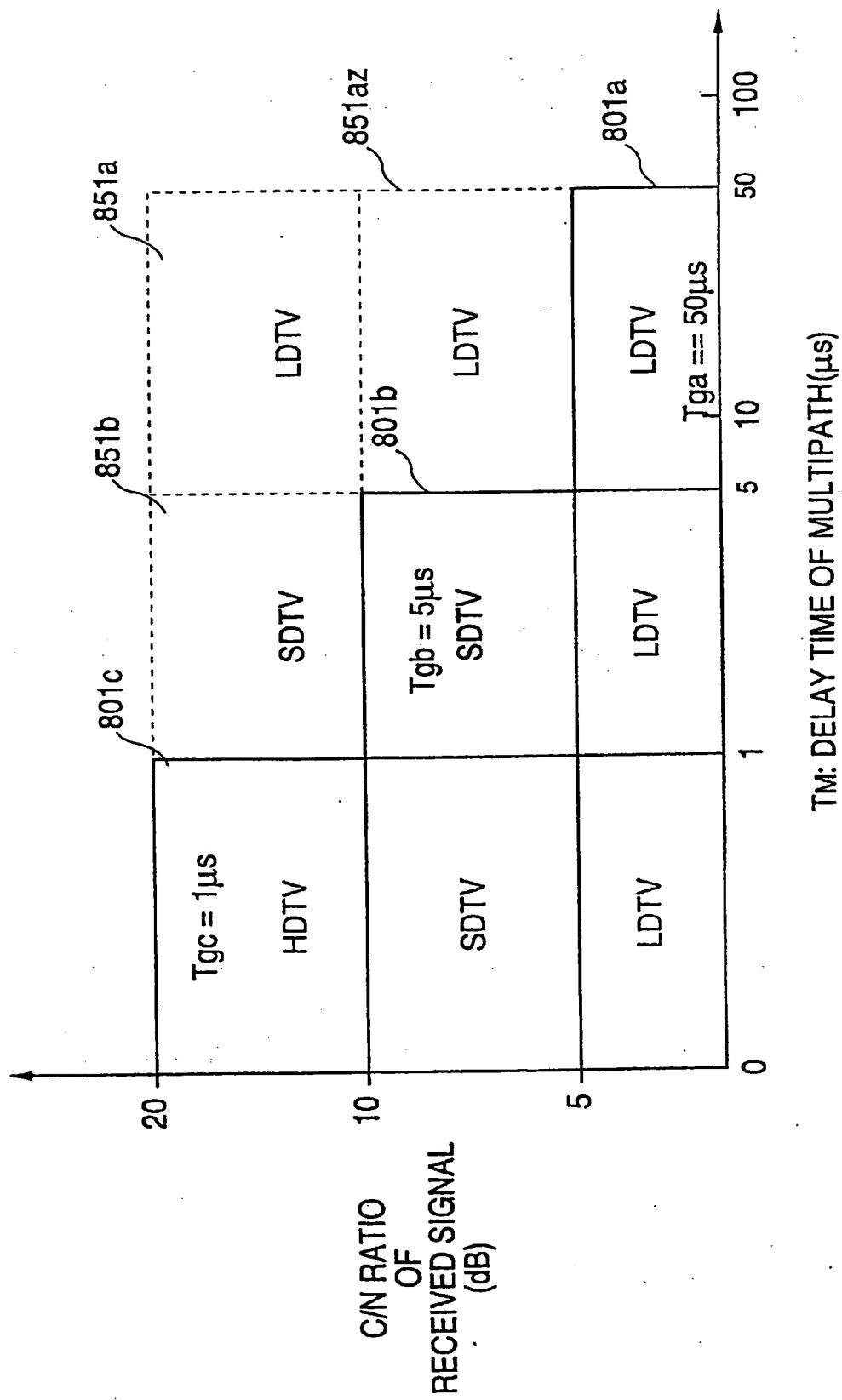


FIG. 152

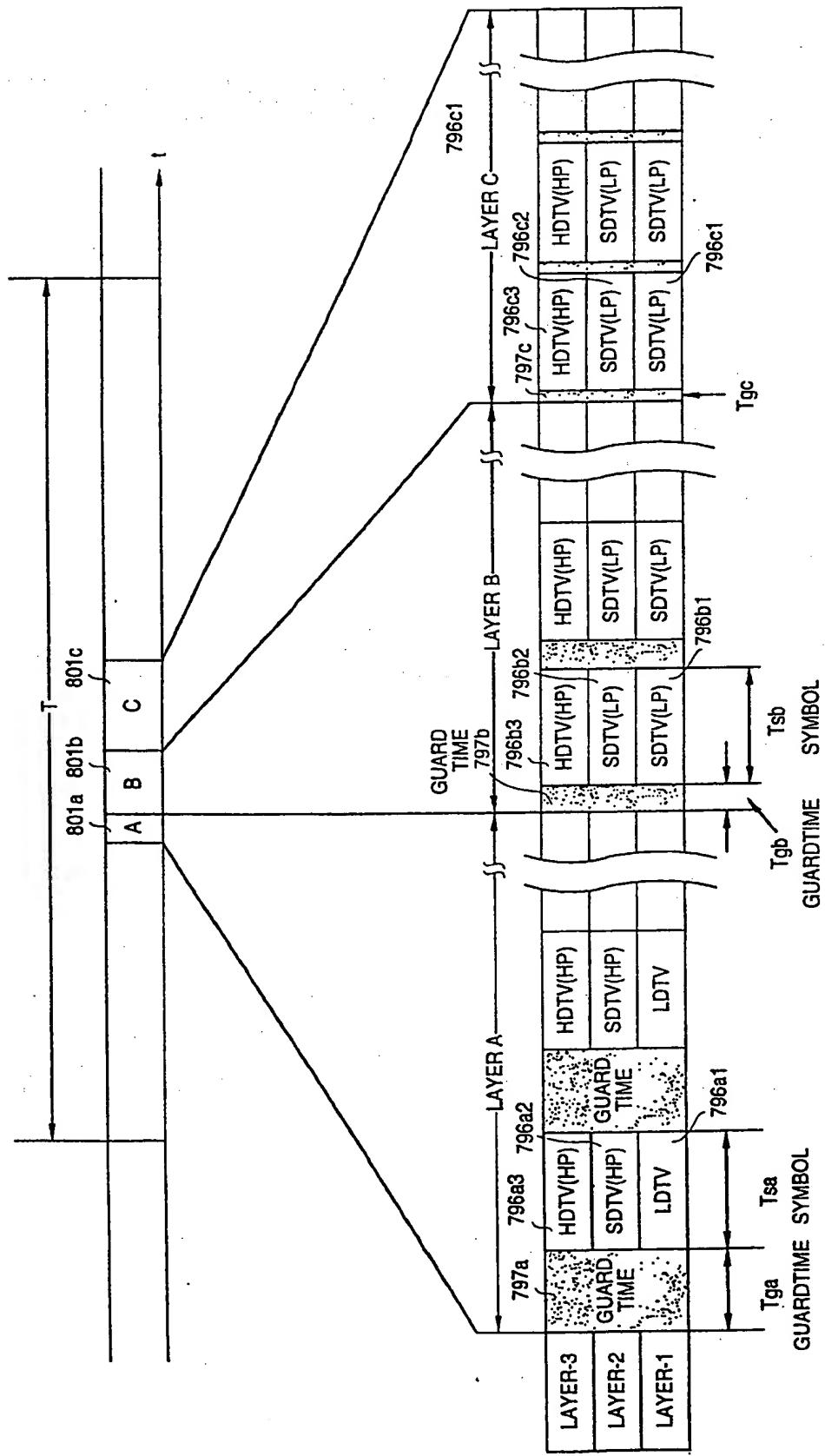


FIG. 153

TRANSFER RATE (Mbps)

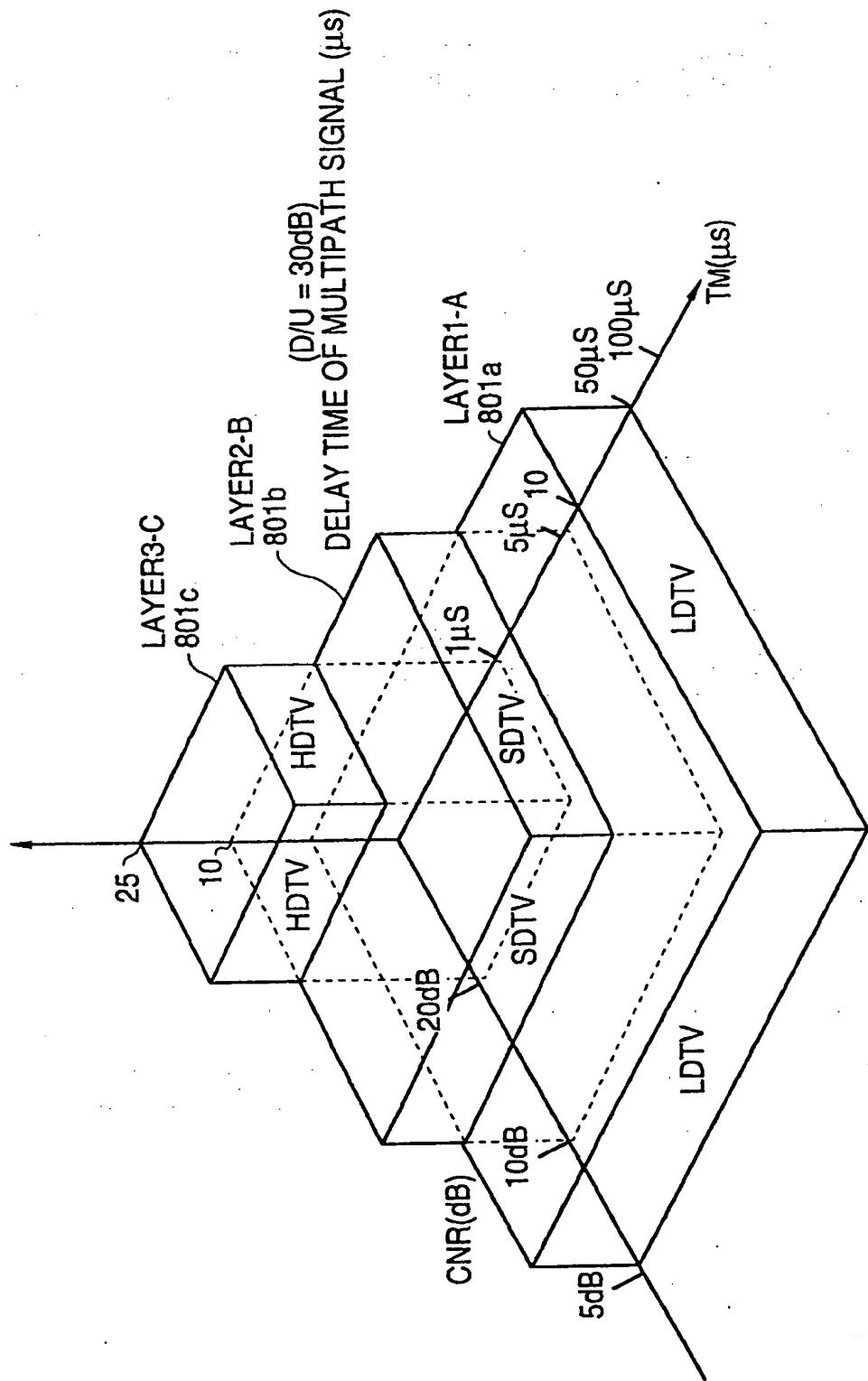


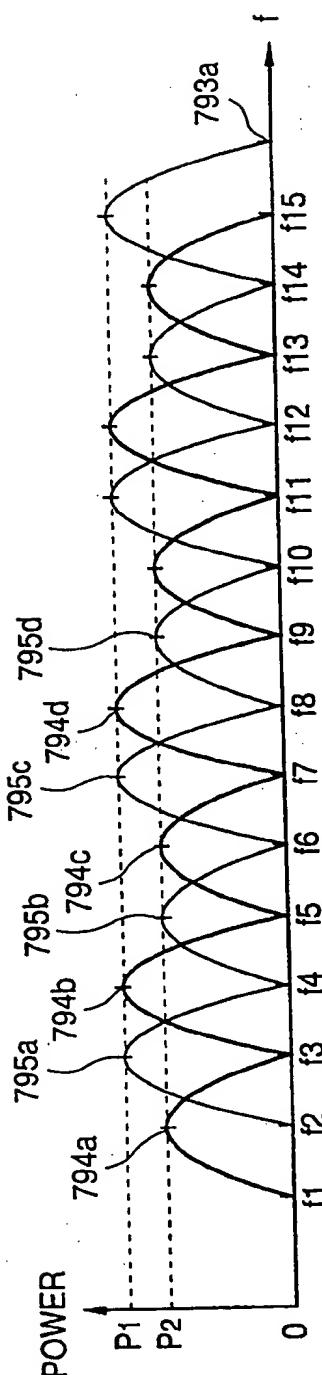
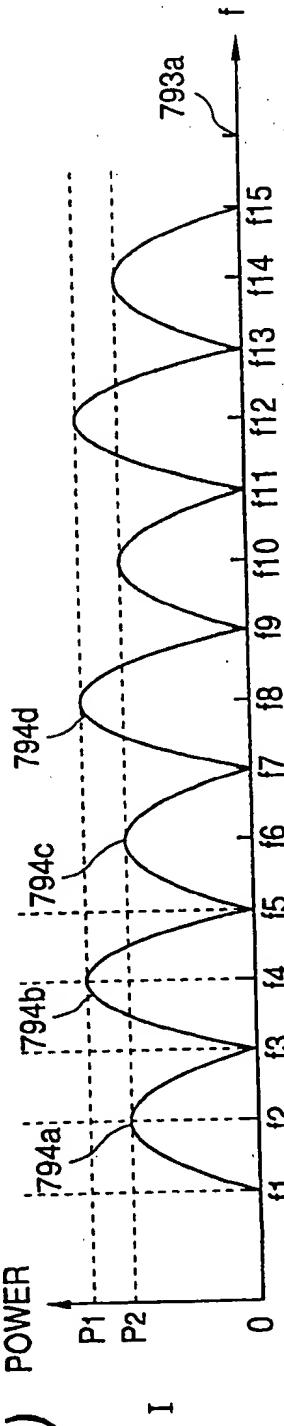
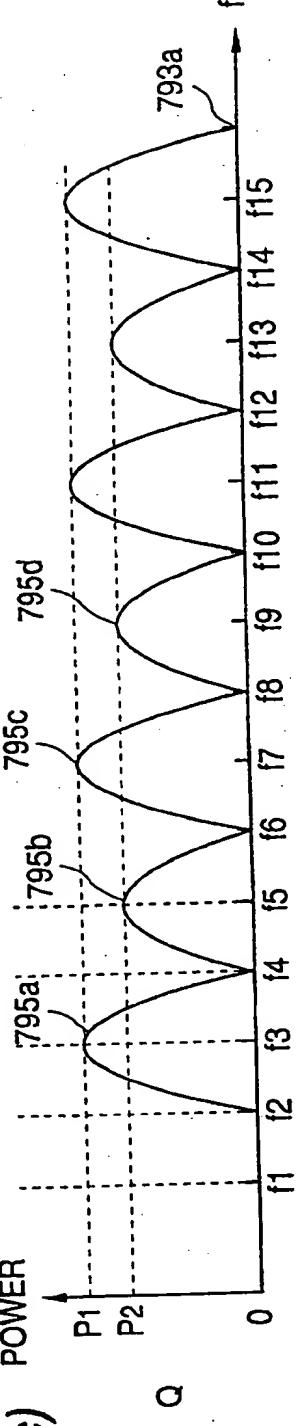
FIG. 154(a)**FIG. 154(b)****FIG. 154(c)**

FIG. 155

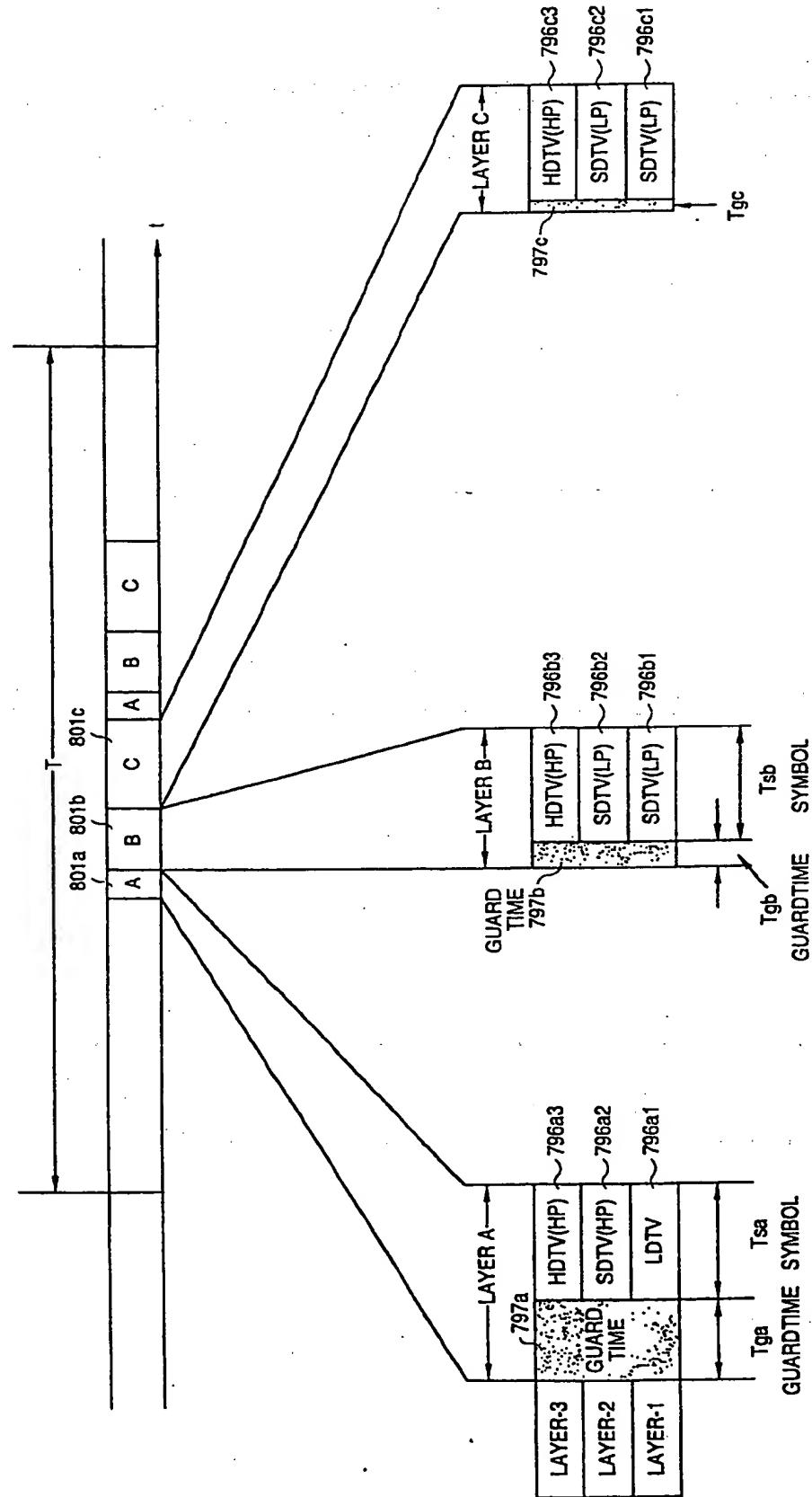


FIG. 156

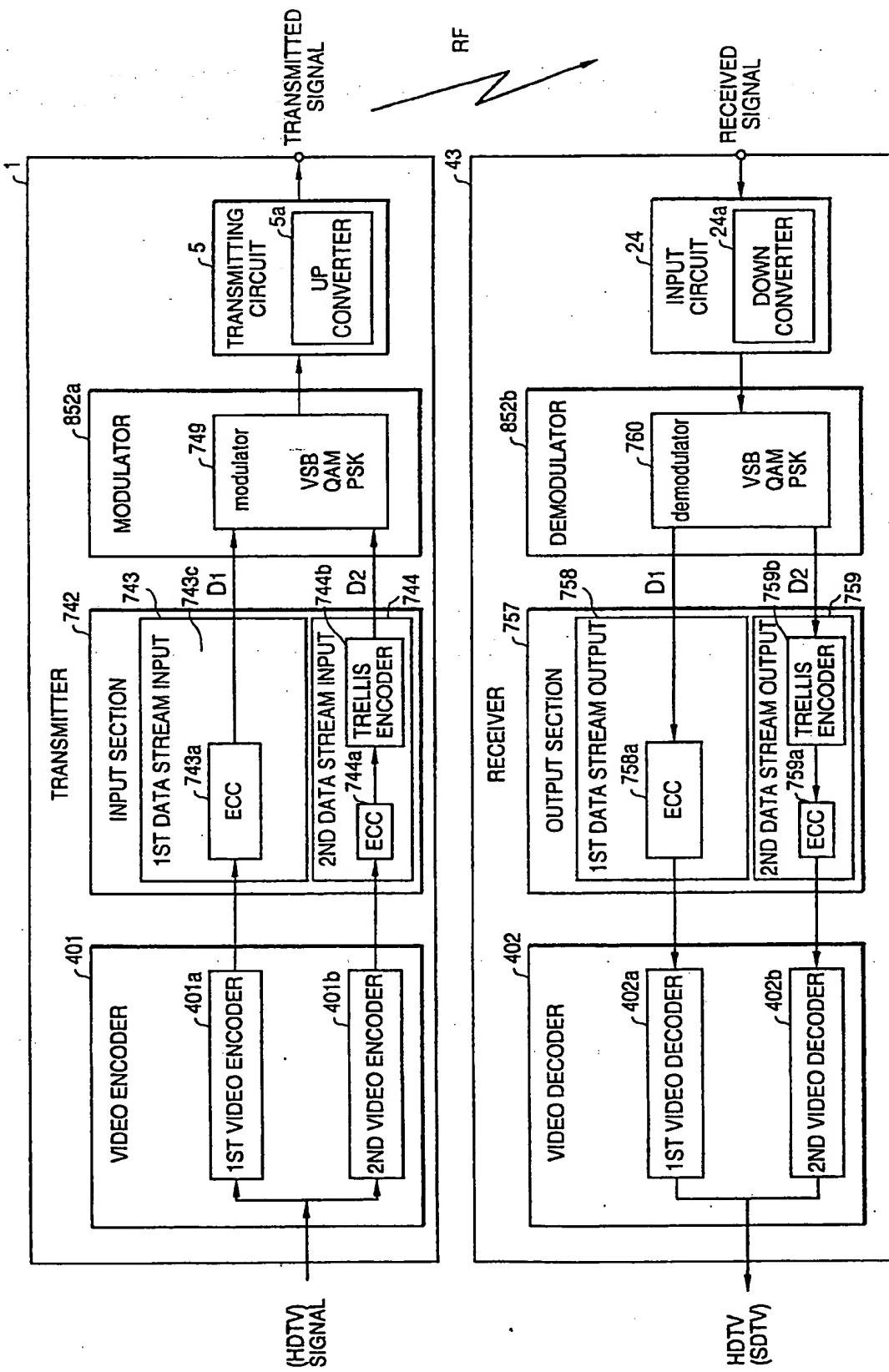


FIG. 157

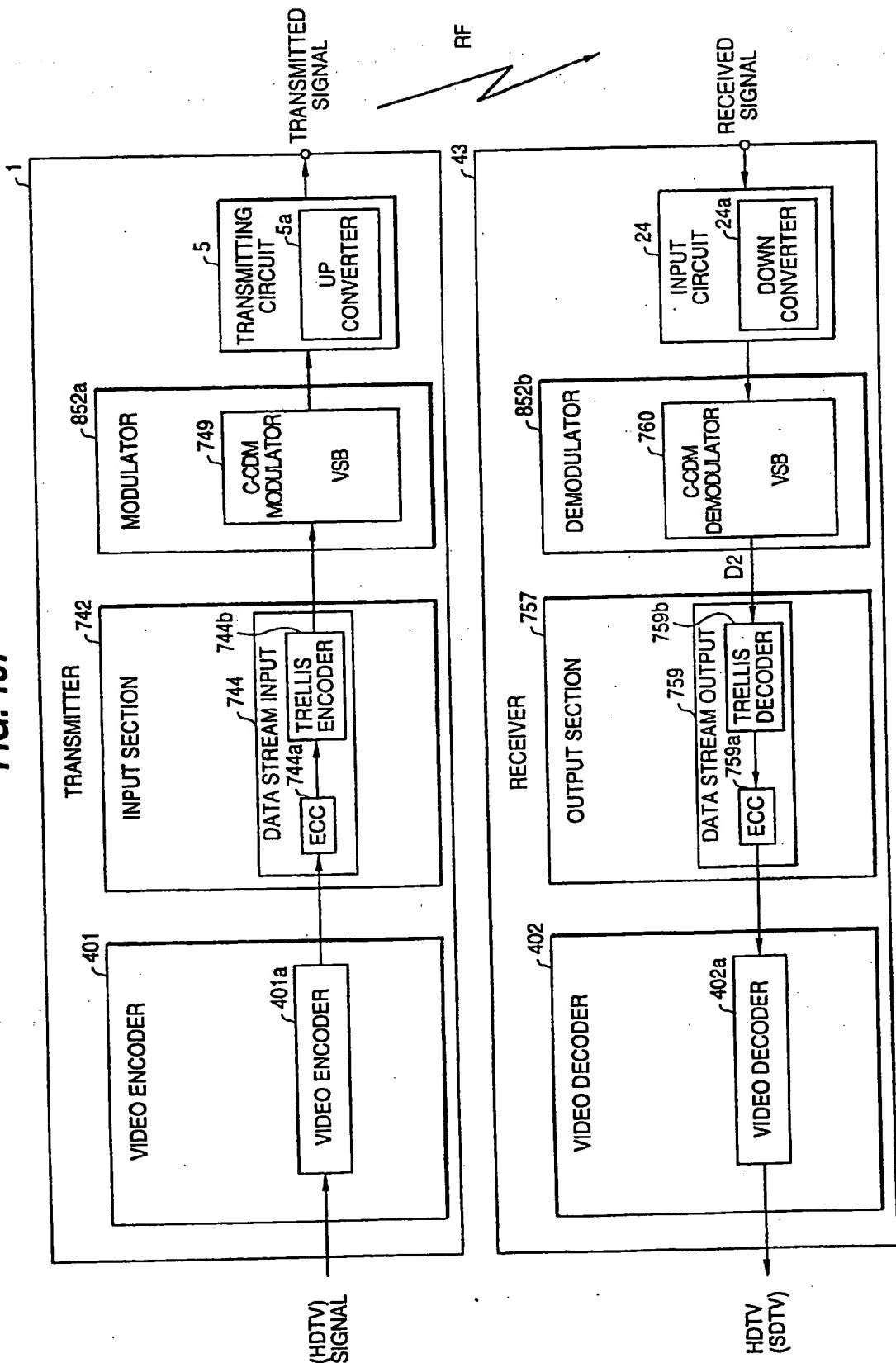
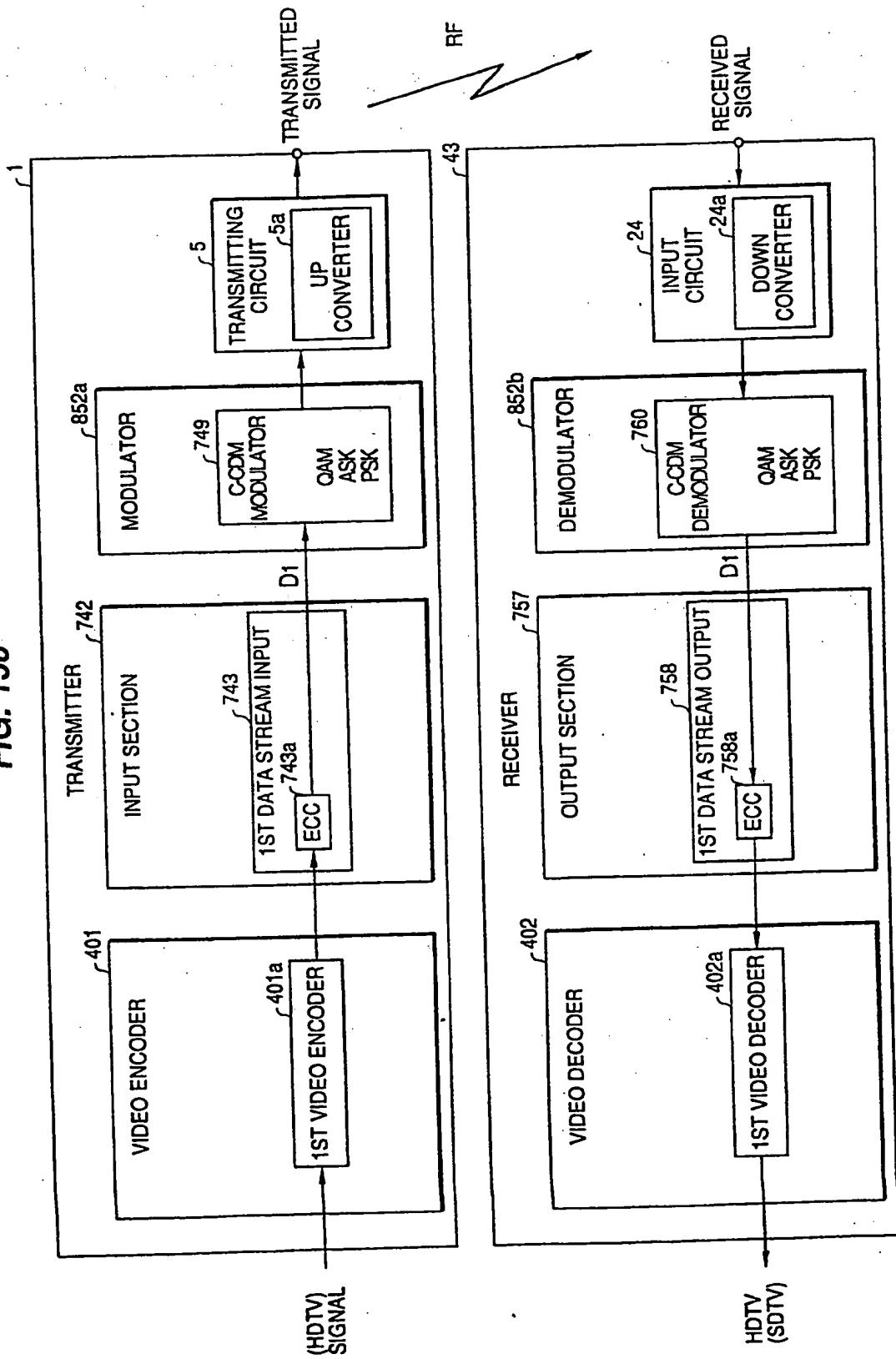


FIG. 158



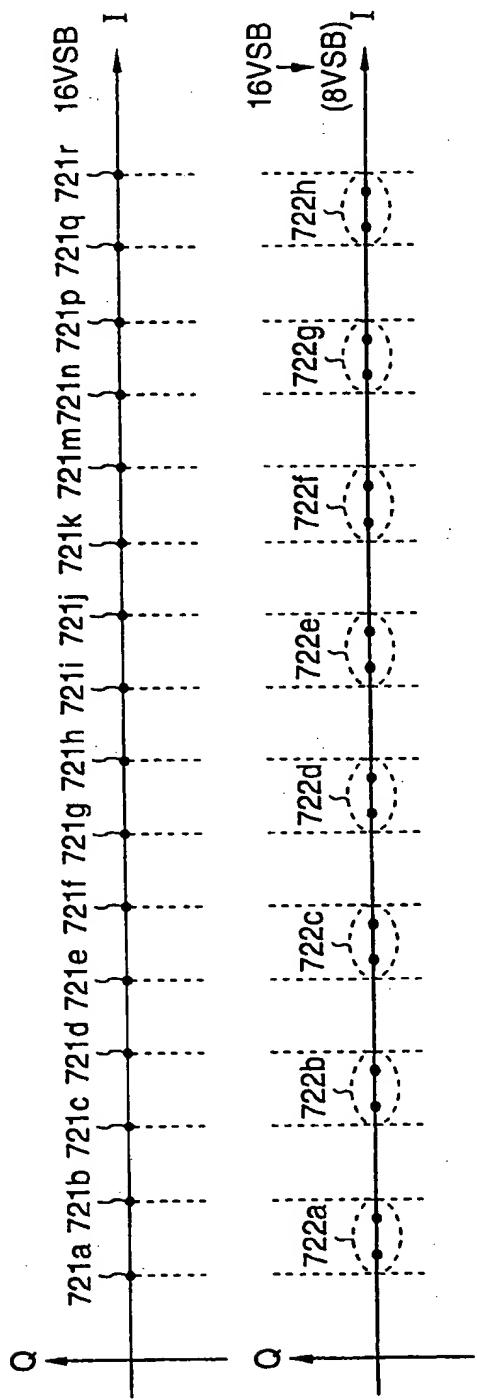


FIG. 159(a)

FIG. 159(b)

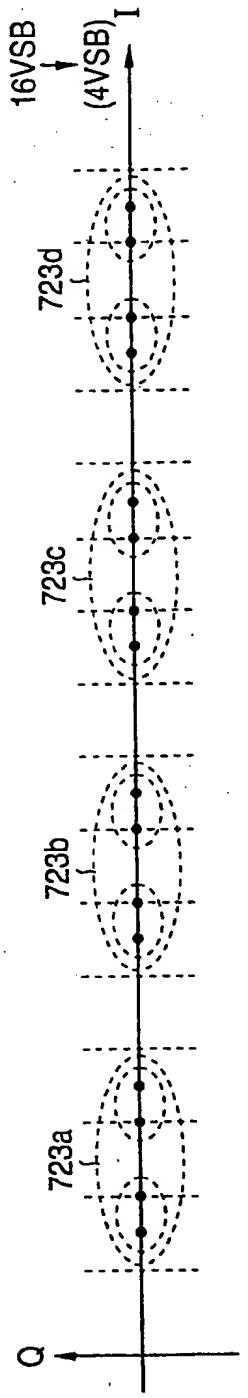


FIG. 159(c)

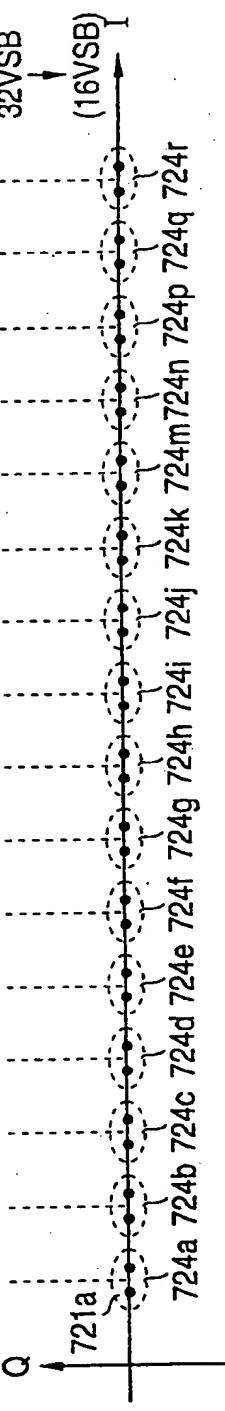


FIG. 159(d)

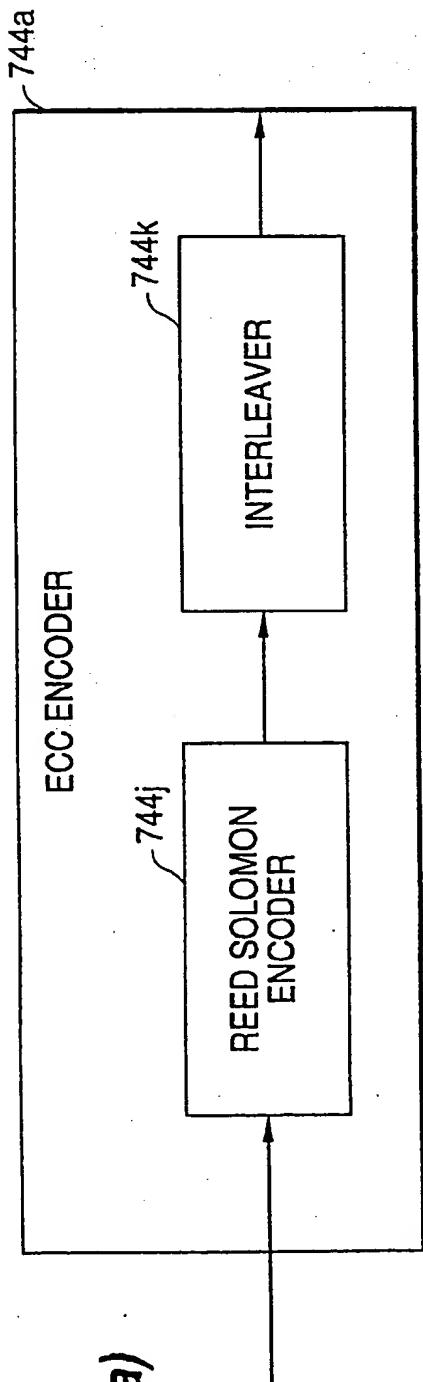


FIG. 160(a)

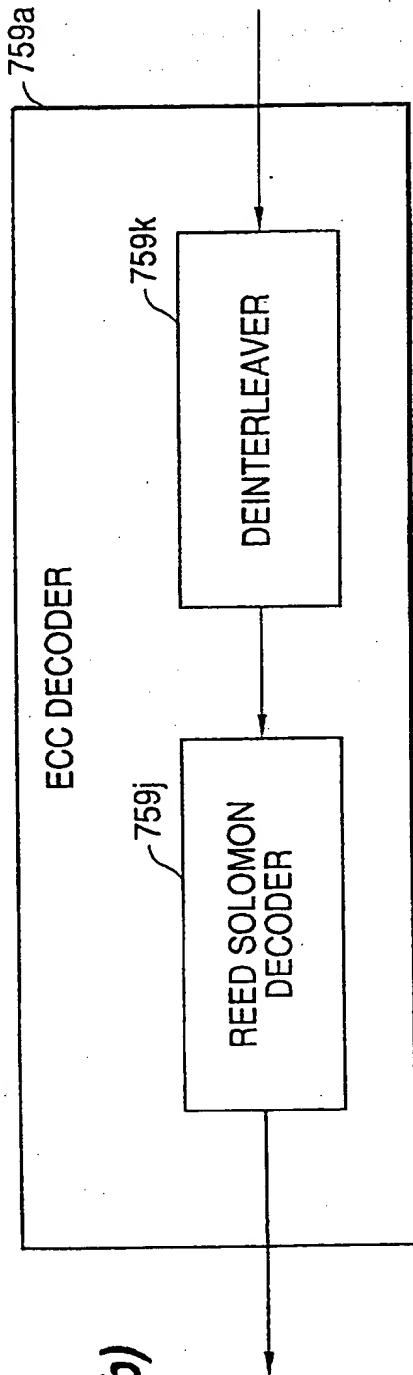


FIG. 160(b)

FIG. 161

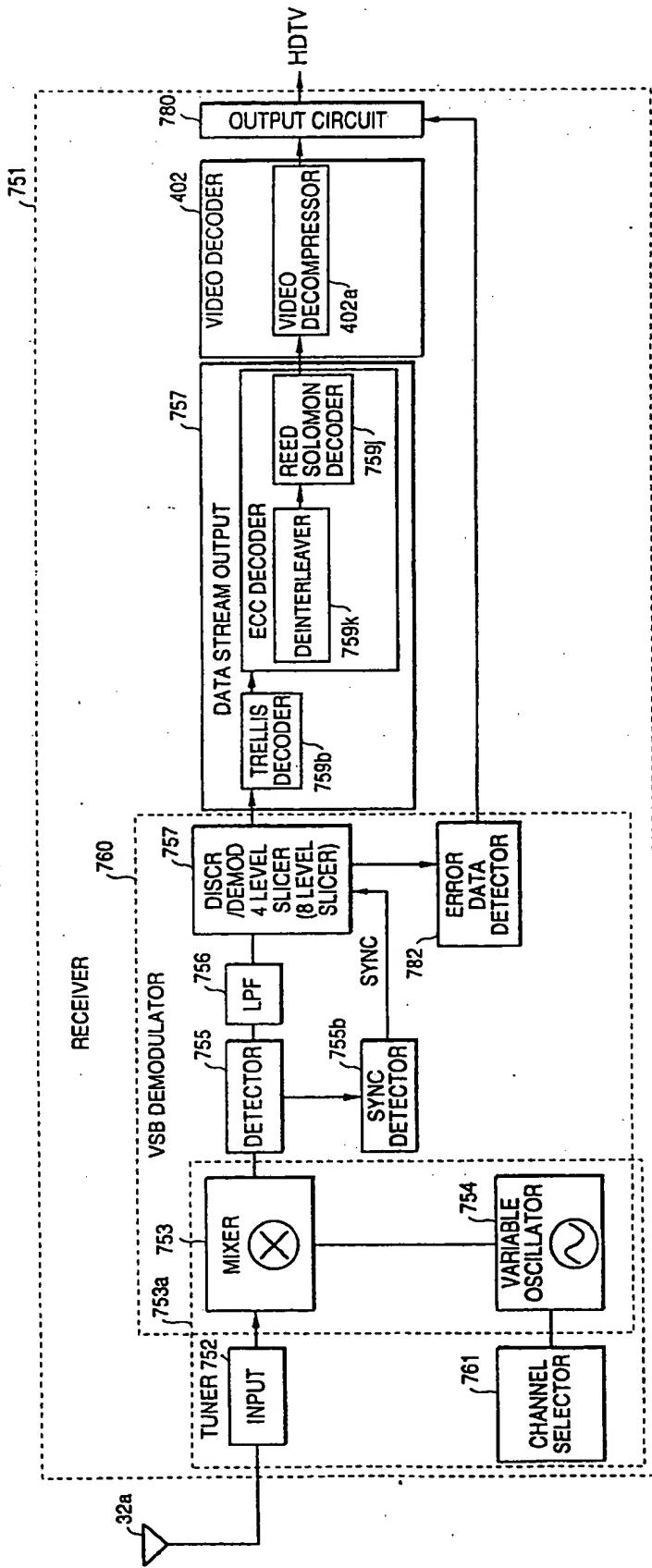


FIG. 162

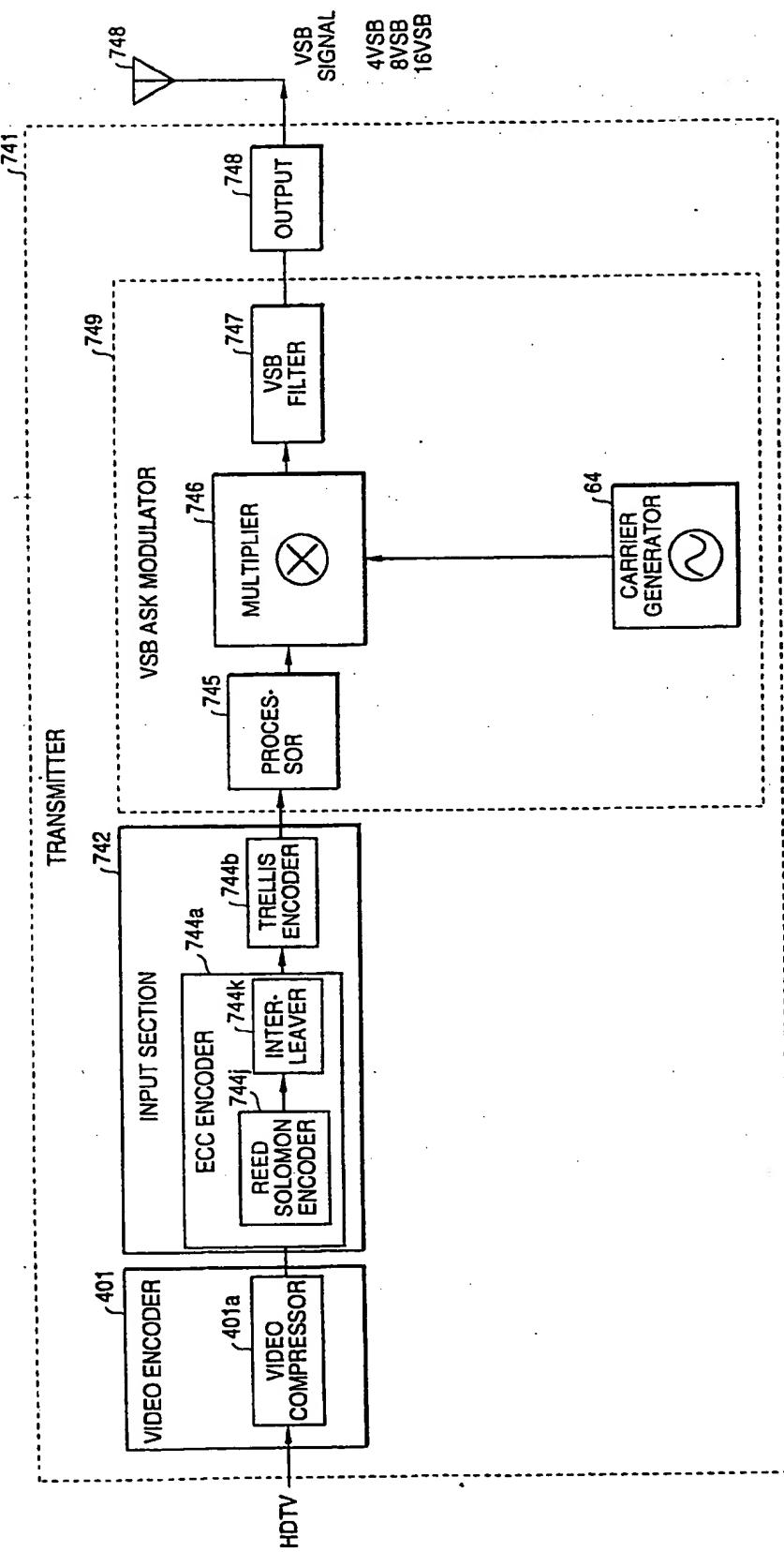


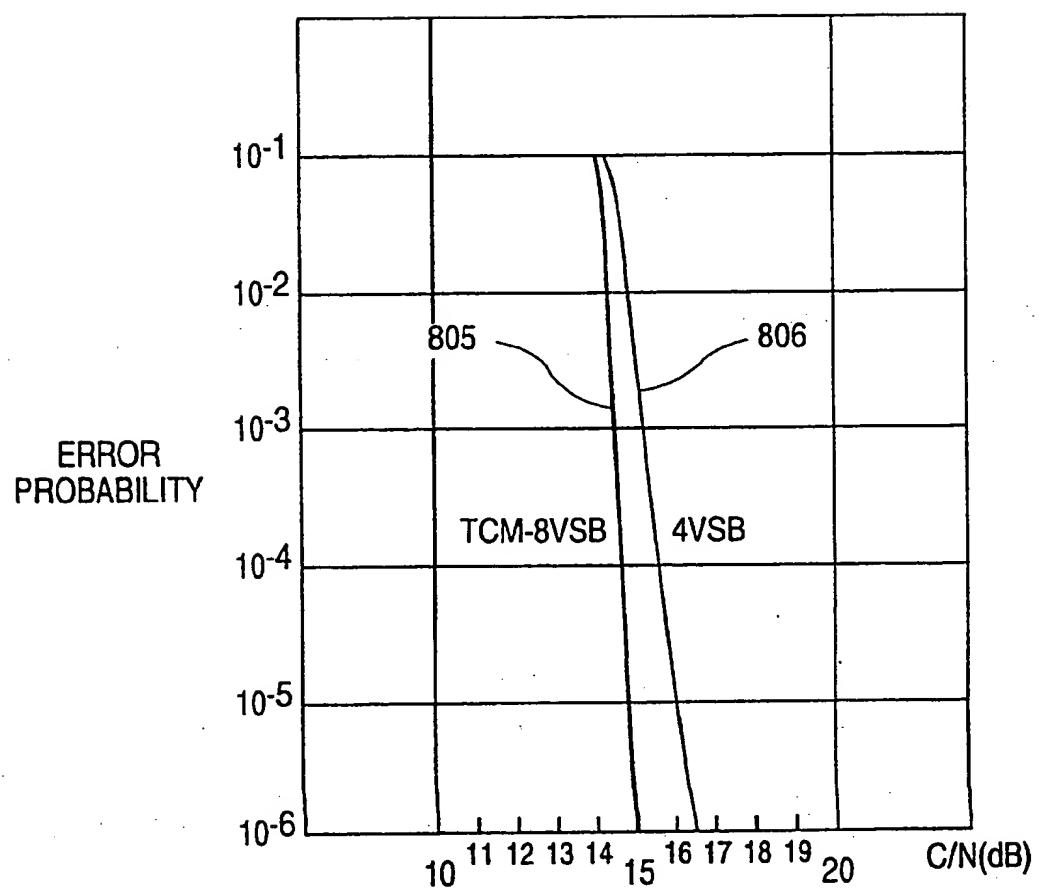
FIG. 163

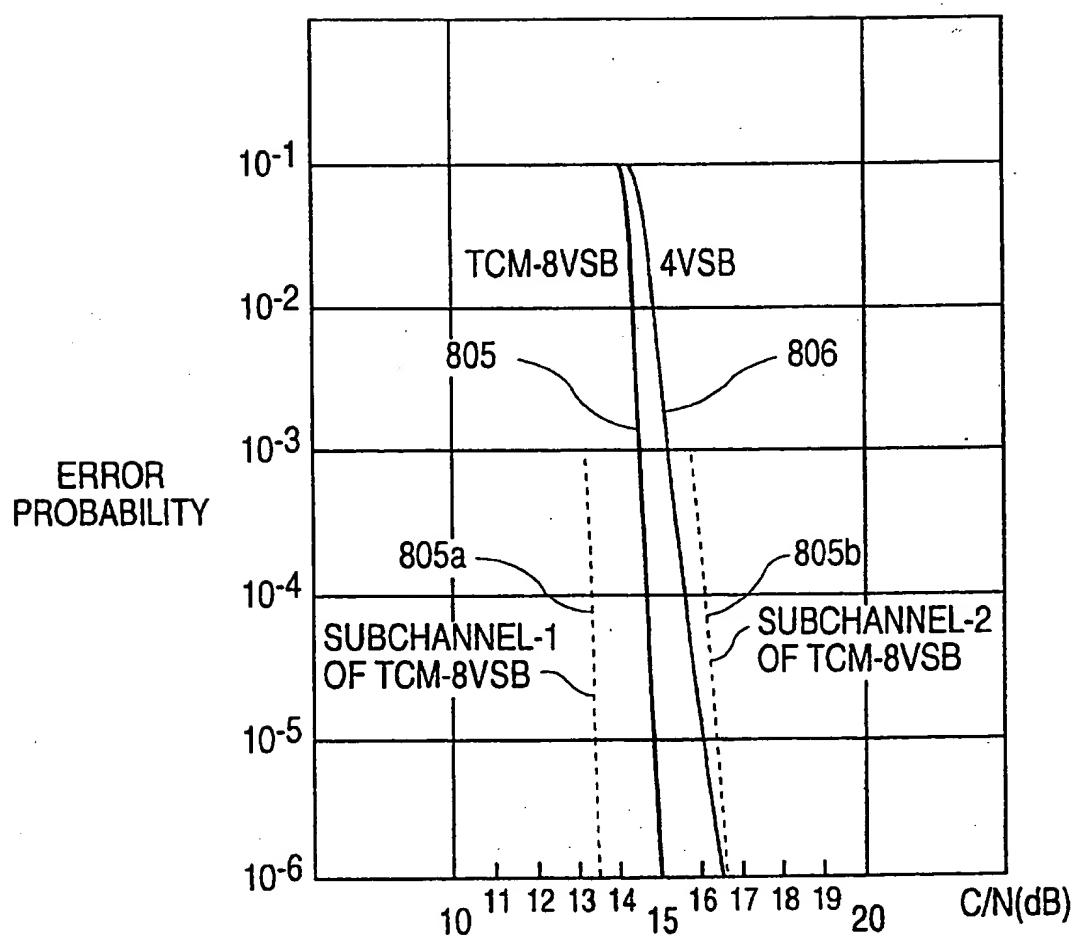
FIG. 164

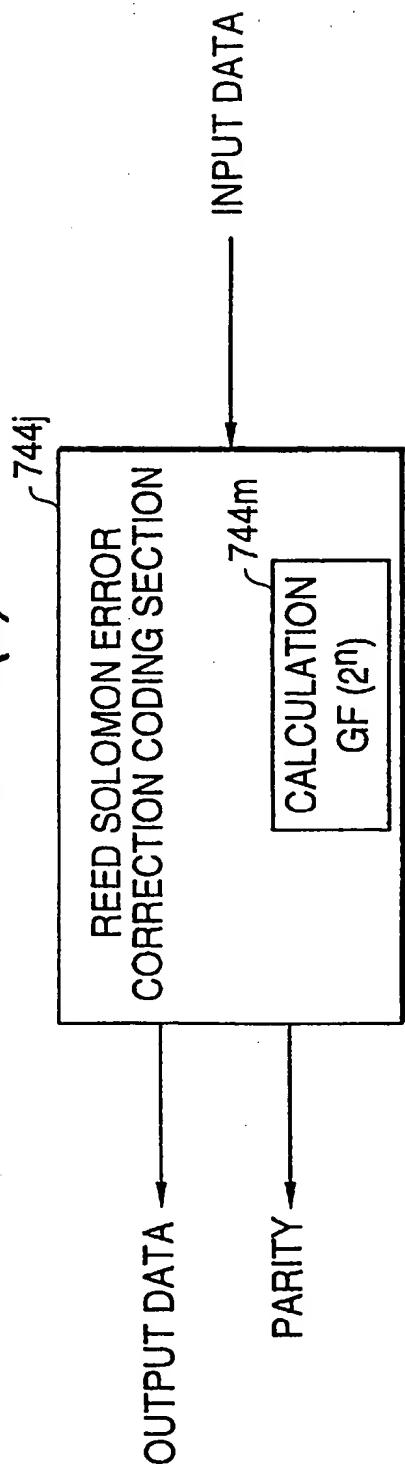
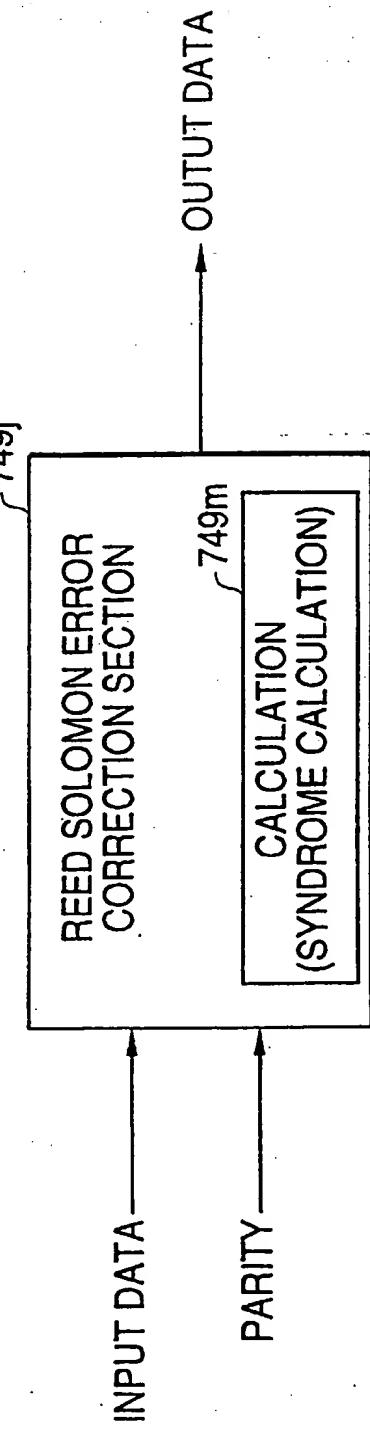
FIG. 165(a)**FIG. 165(b)**

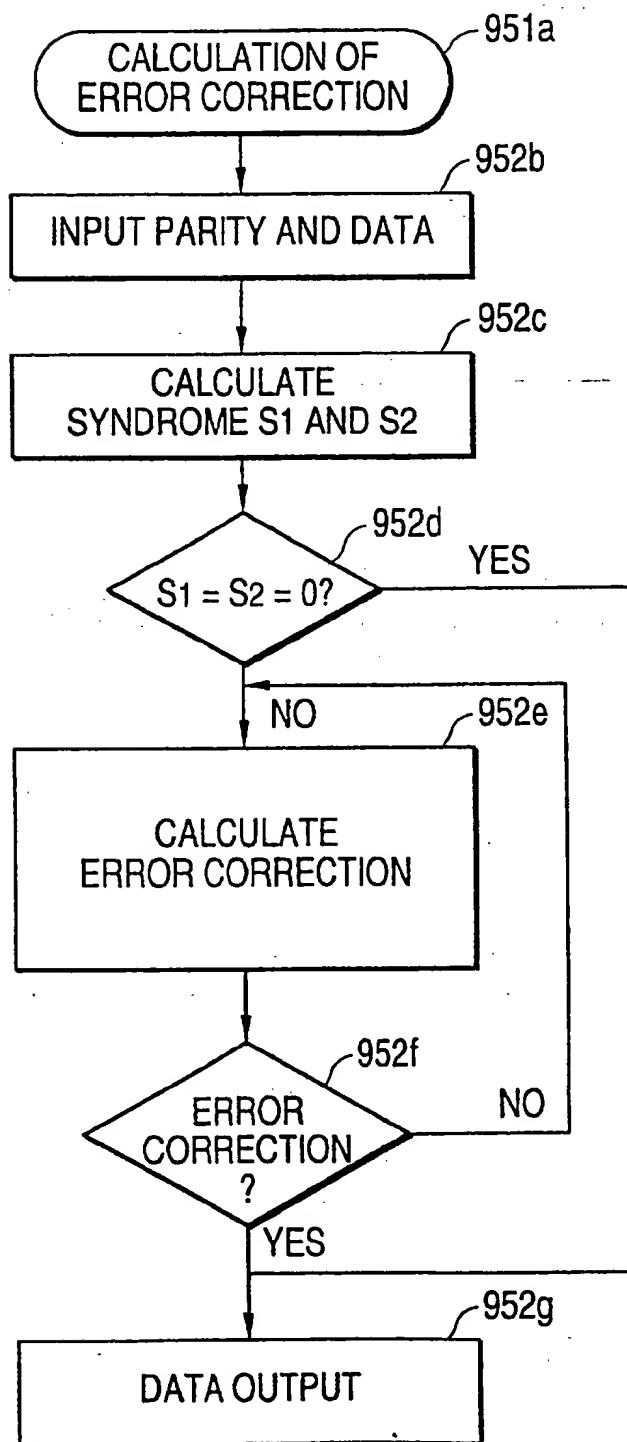
FIG. 166

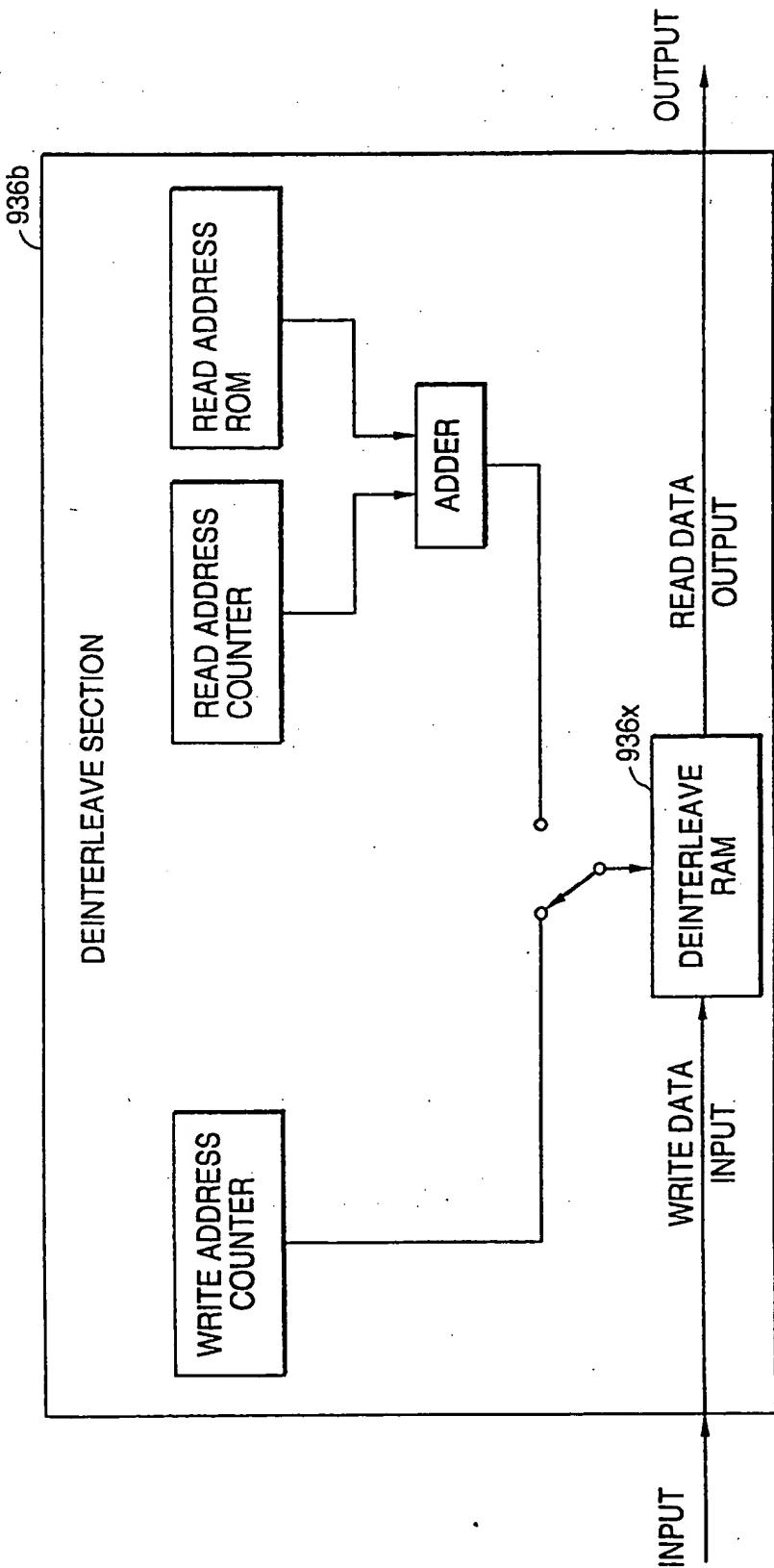
FIG. 167

FIG. 168(a)

	1	2	3	4	5	6	7	
	DATA						C2 PARITY	
1	A1	A2	A3	A4	A5	A6	A6	954
2	B1	B2	B3	B3	B4			951a
3	C1							
4	D1							
5	E1							
6	F1							
C1 PARITY	PARTY	953						

FIG. 168(b)

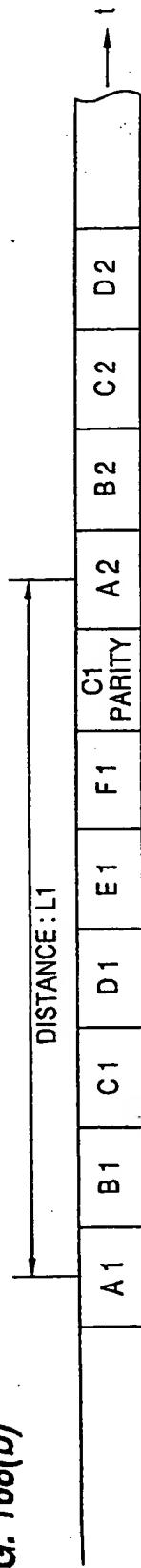


FIG. 169

COMPARISON OF REDUNDANCY

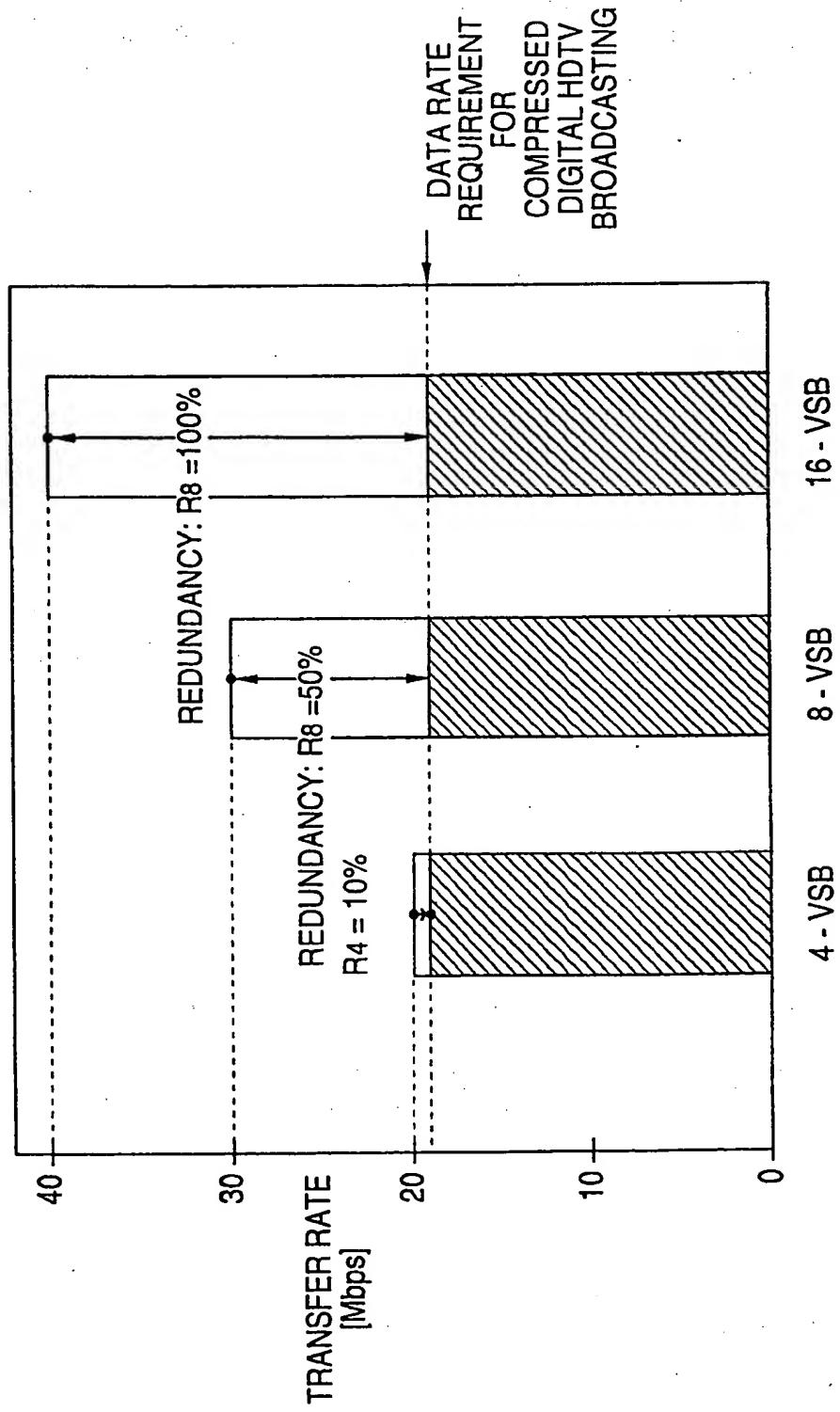


FIG. 170

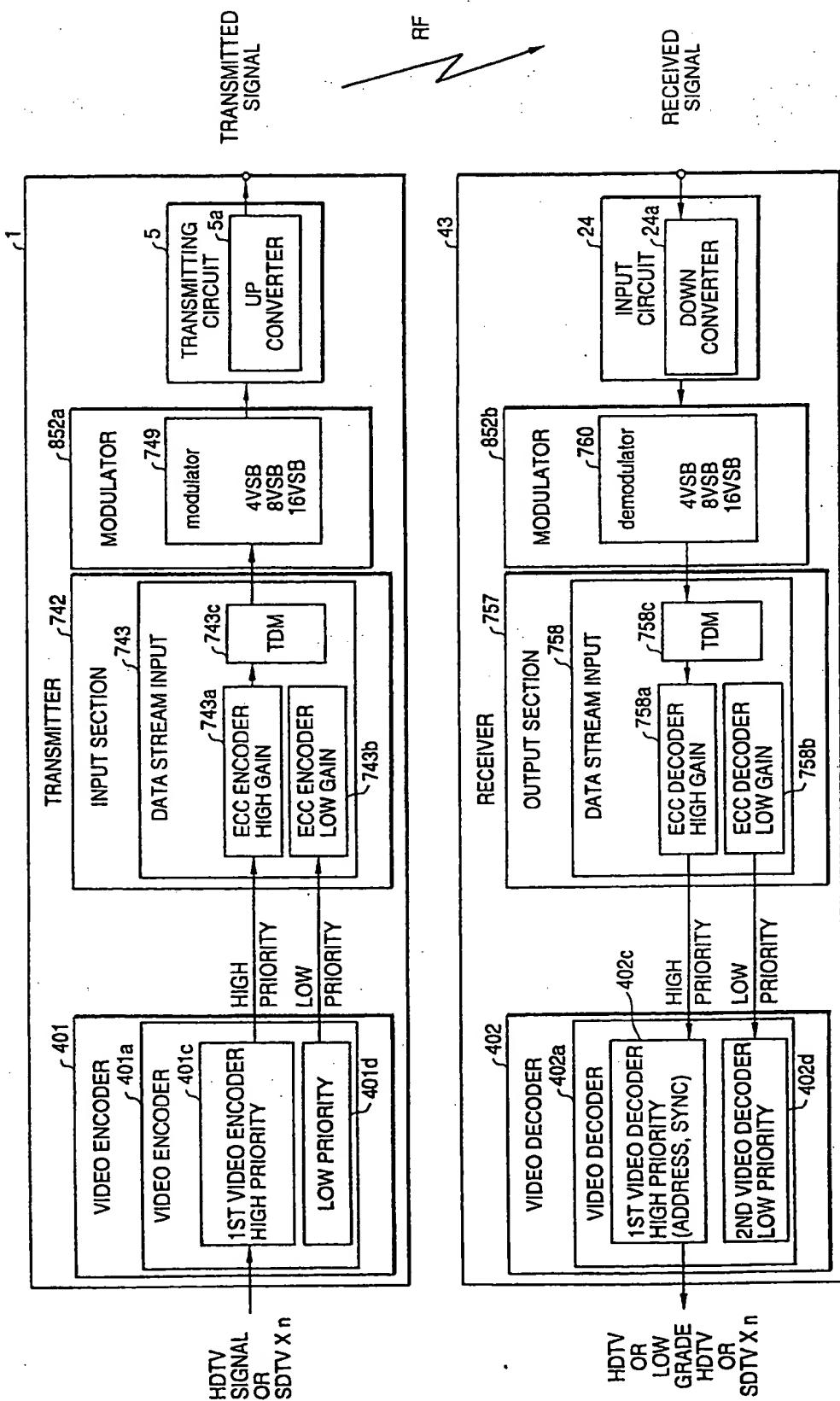


FIG. 171

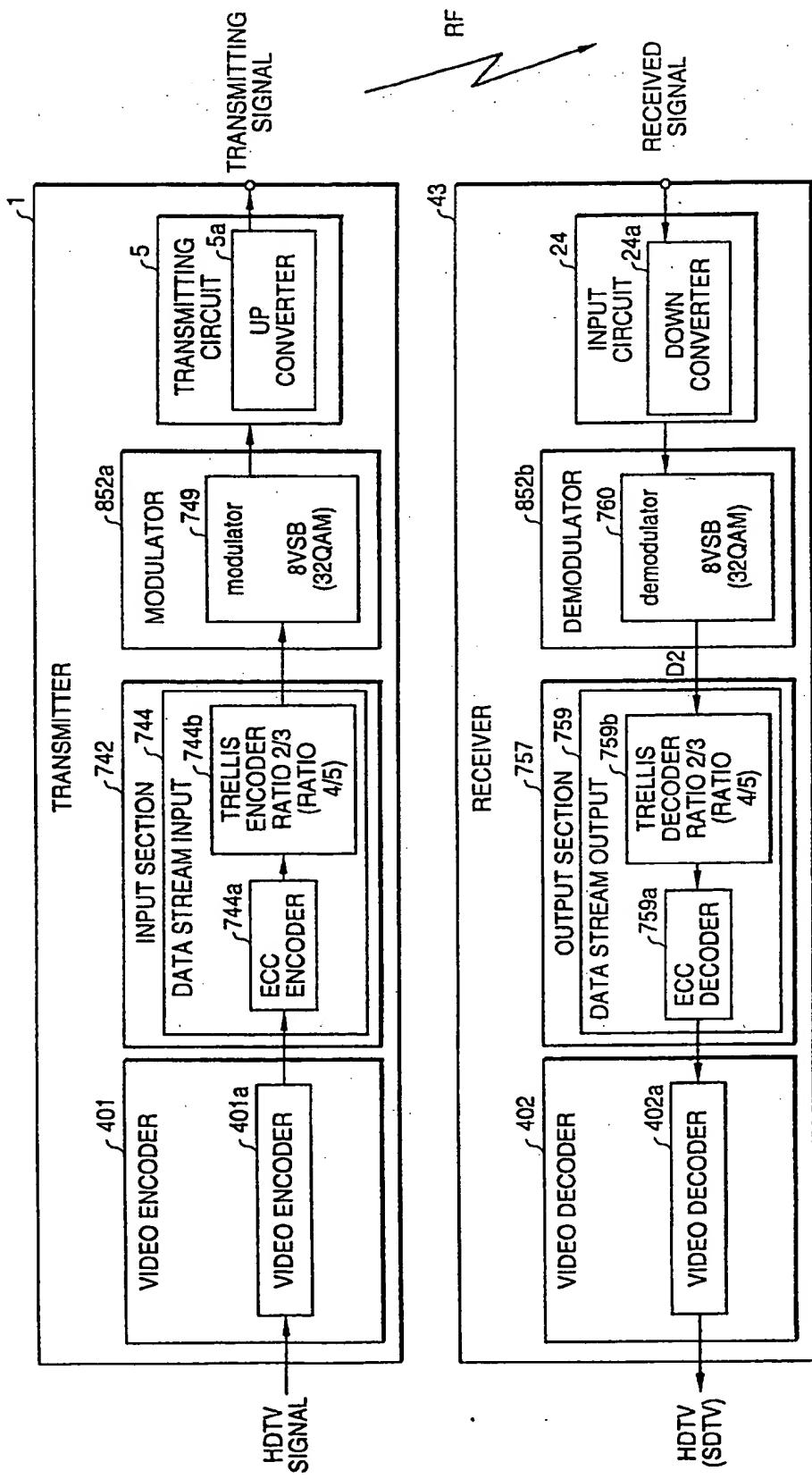


FIG. 172

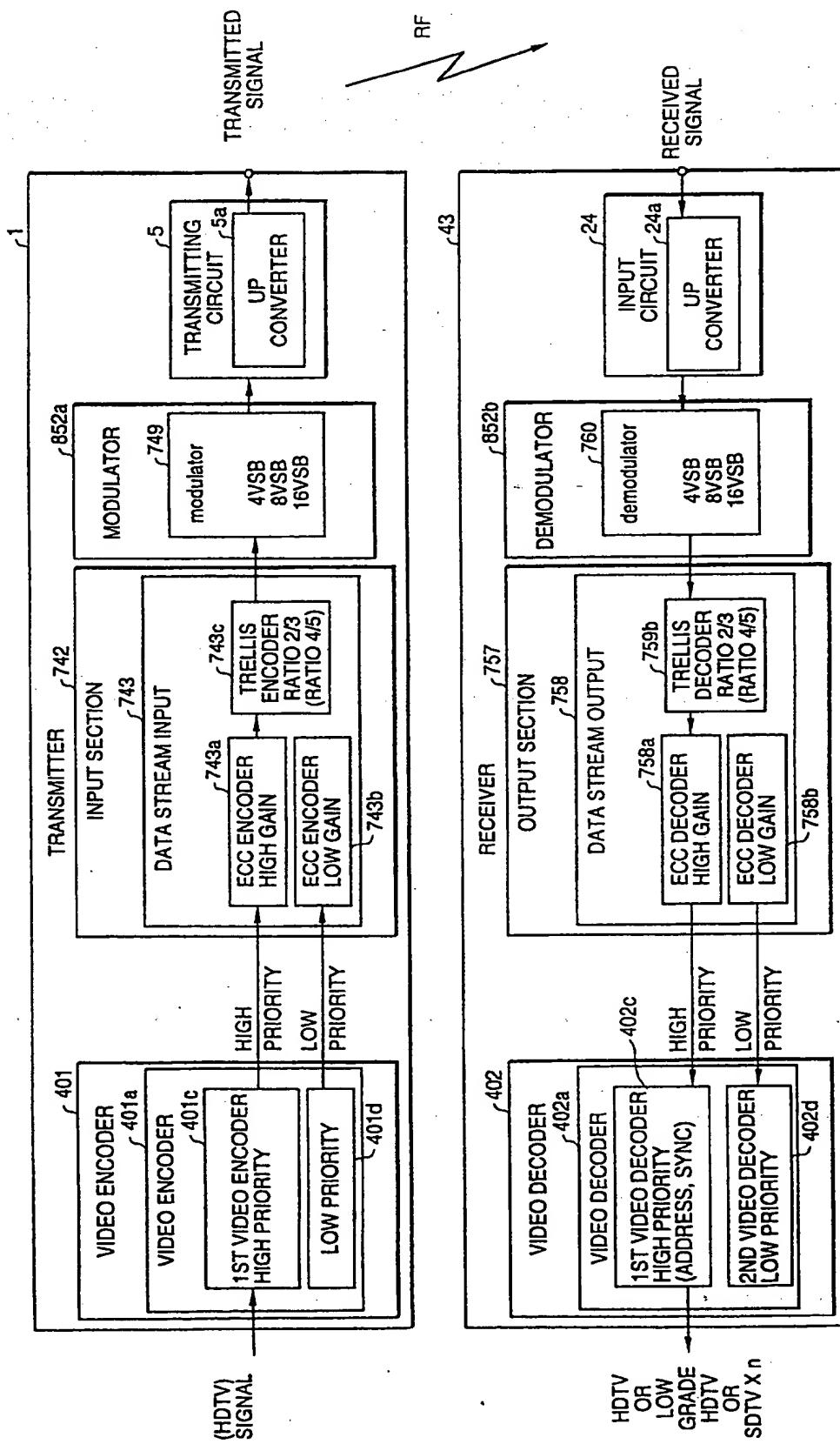


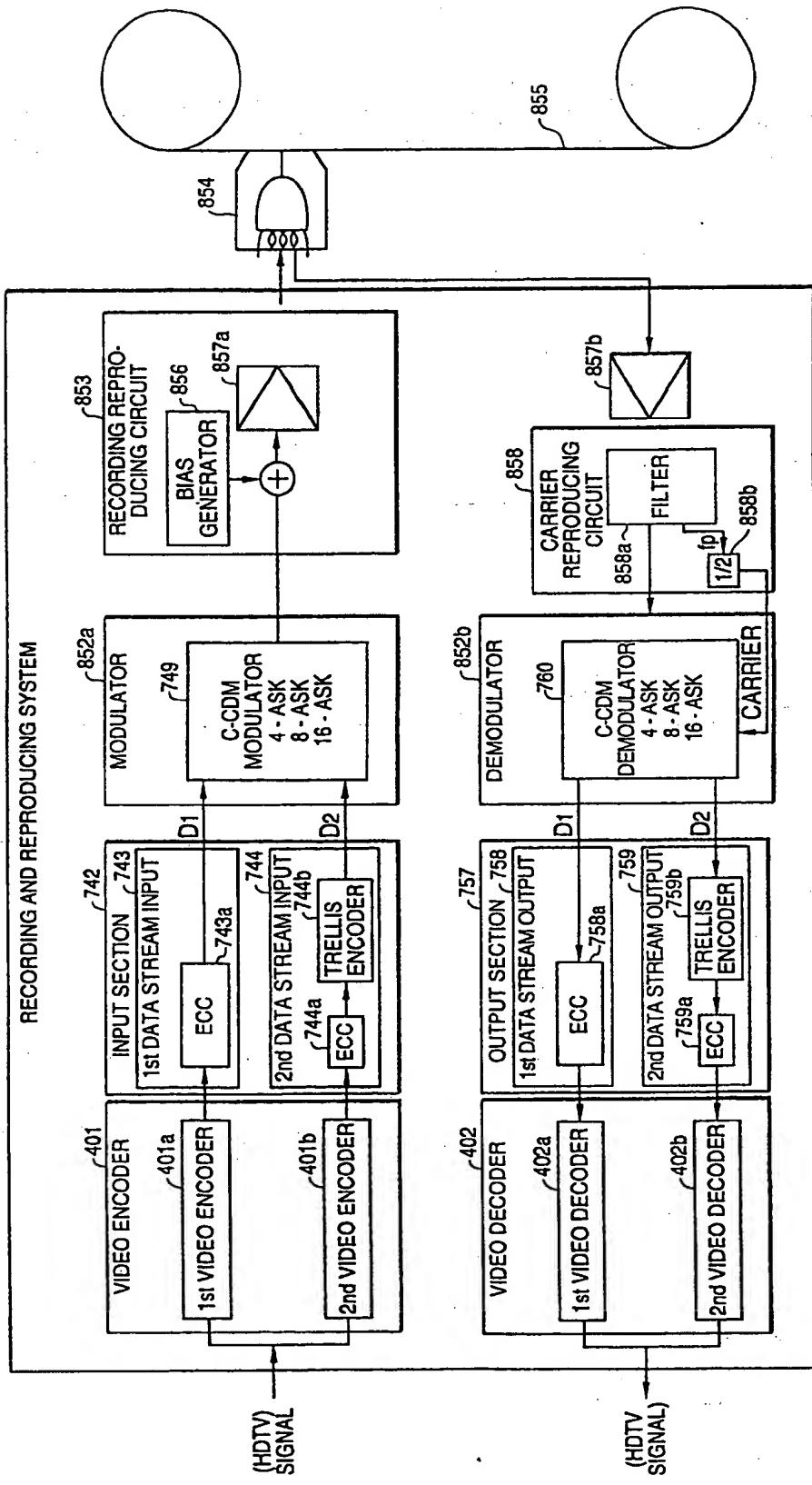
FIG. 173

FIG. 174

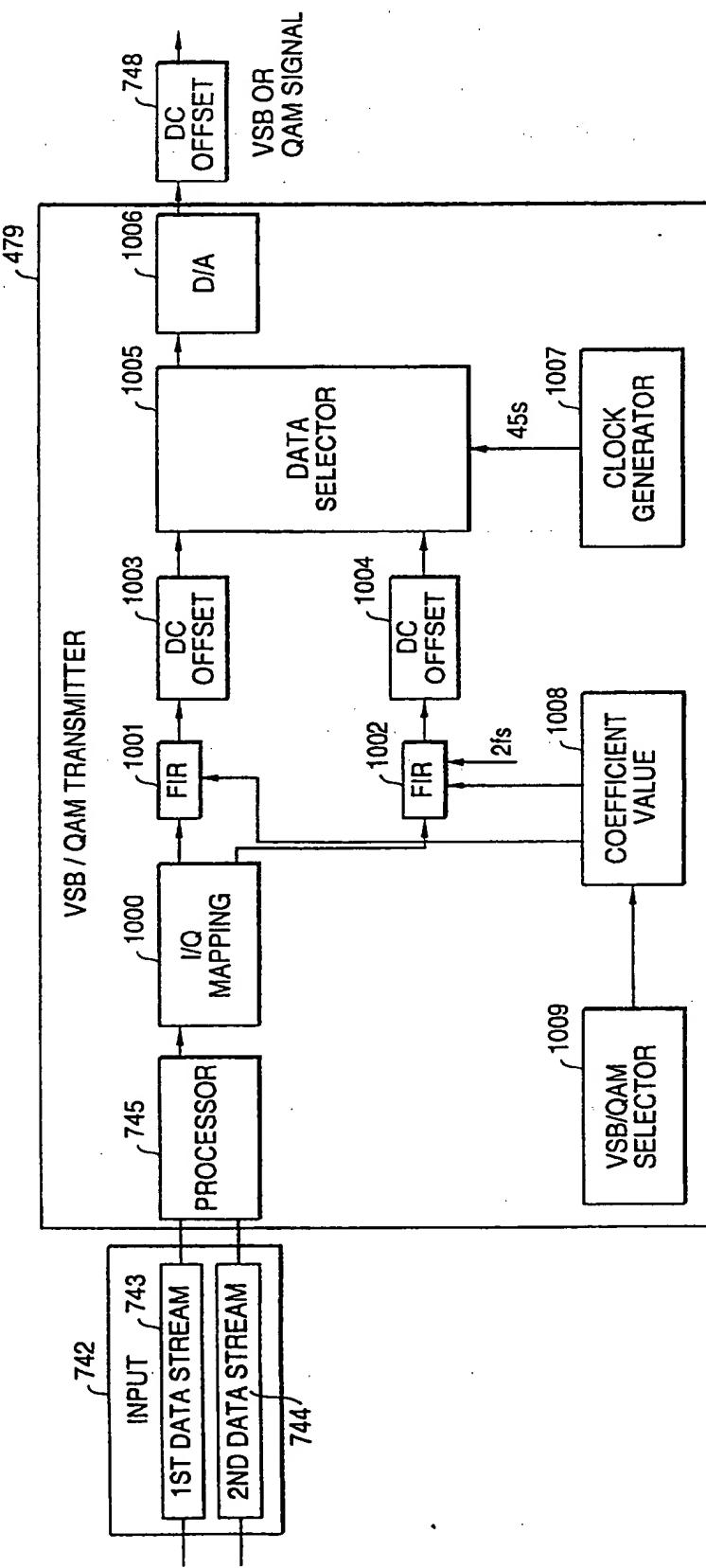


FIG. 175

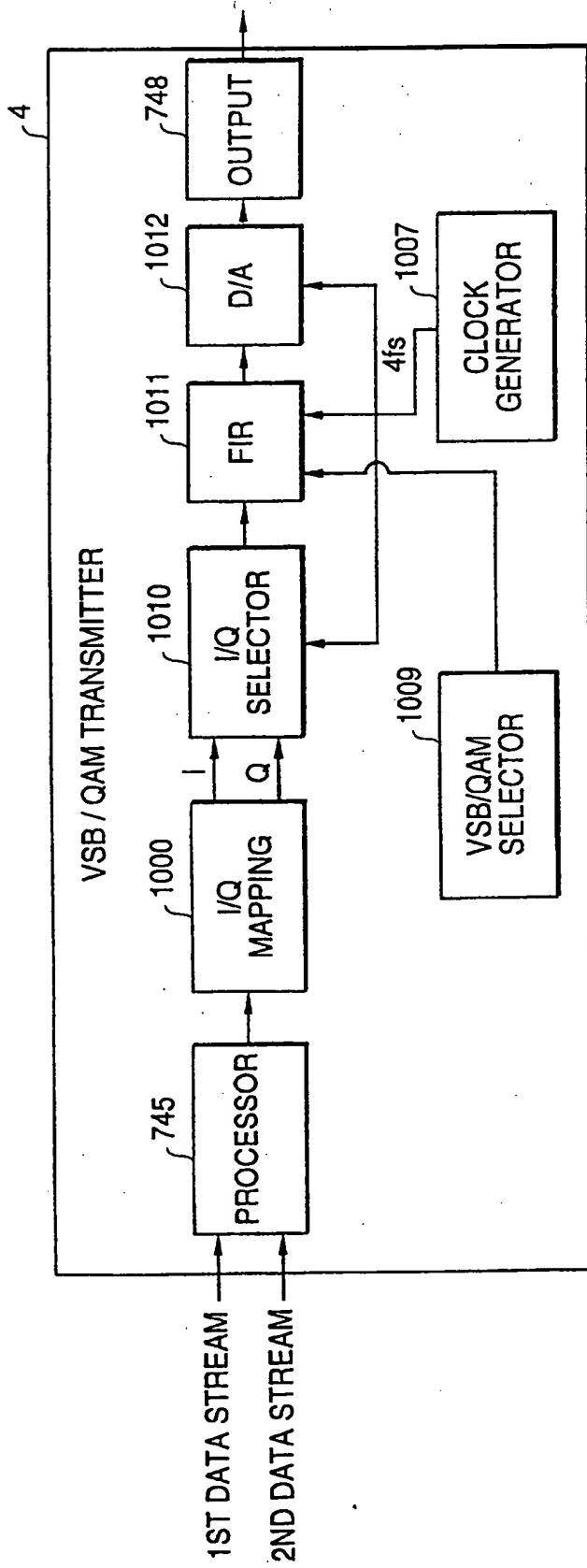


FIG. 176

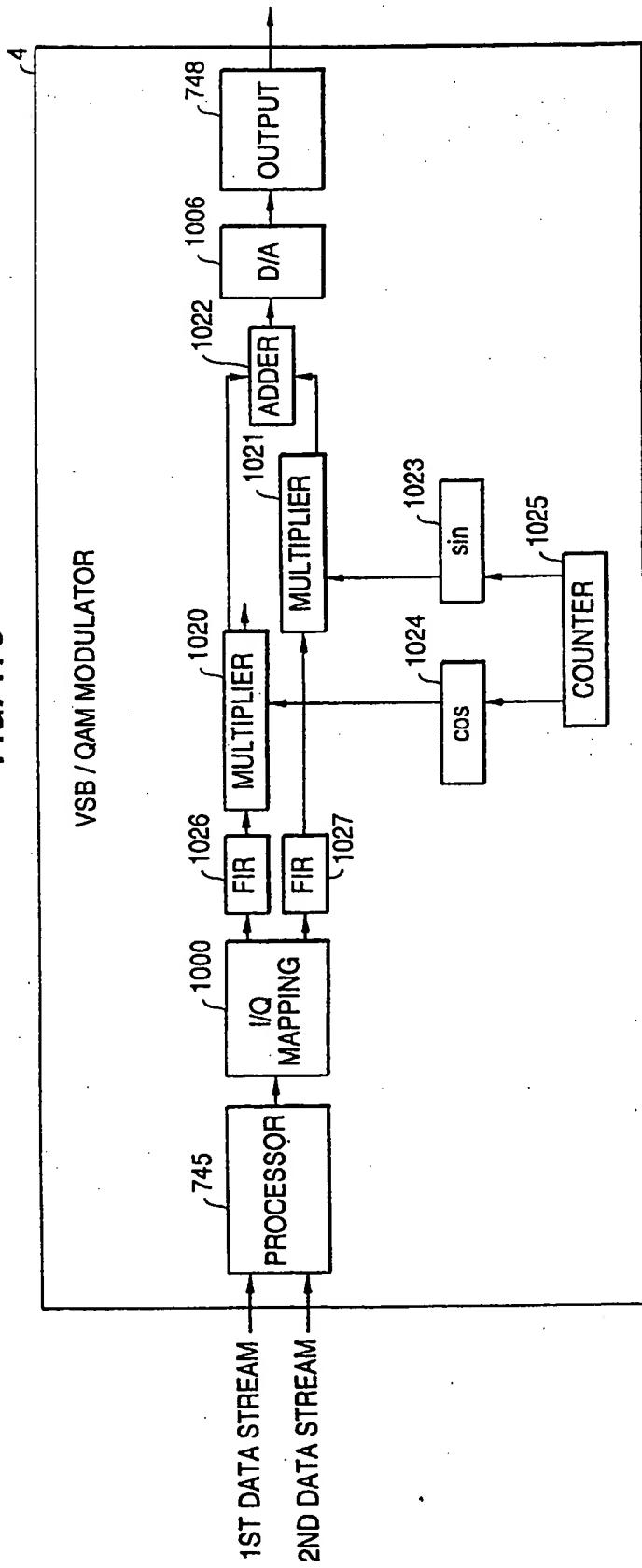


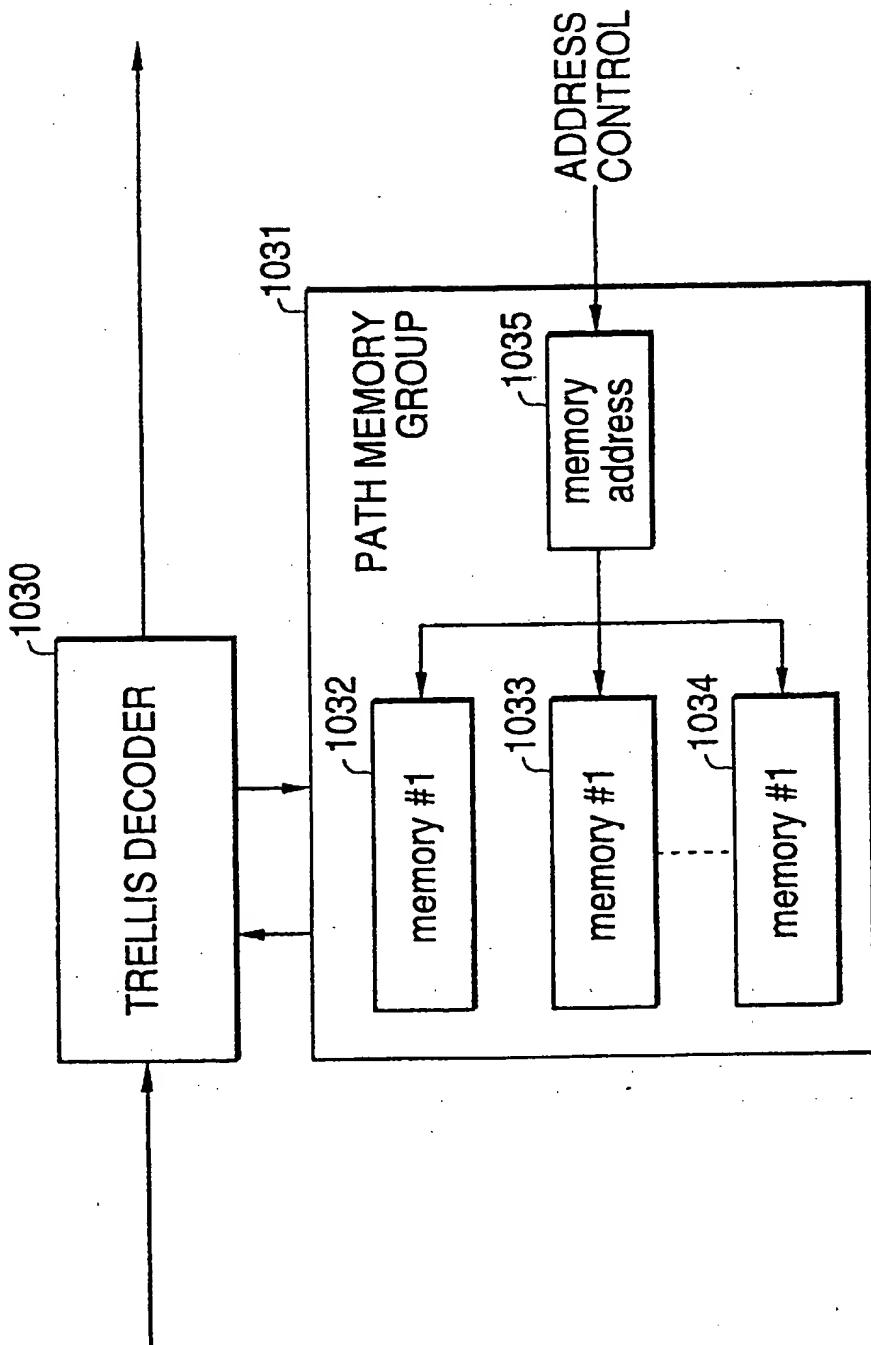
FIG. 177

FIG. 178

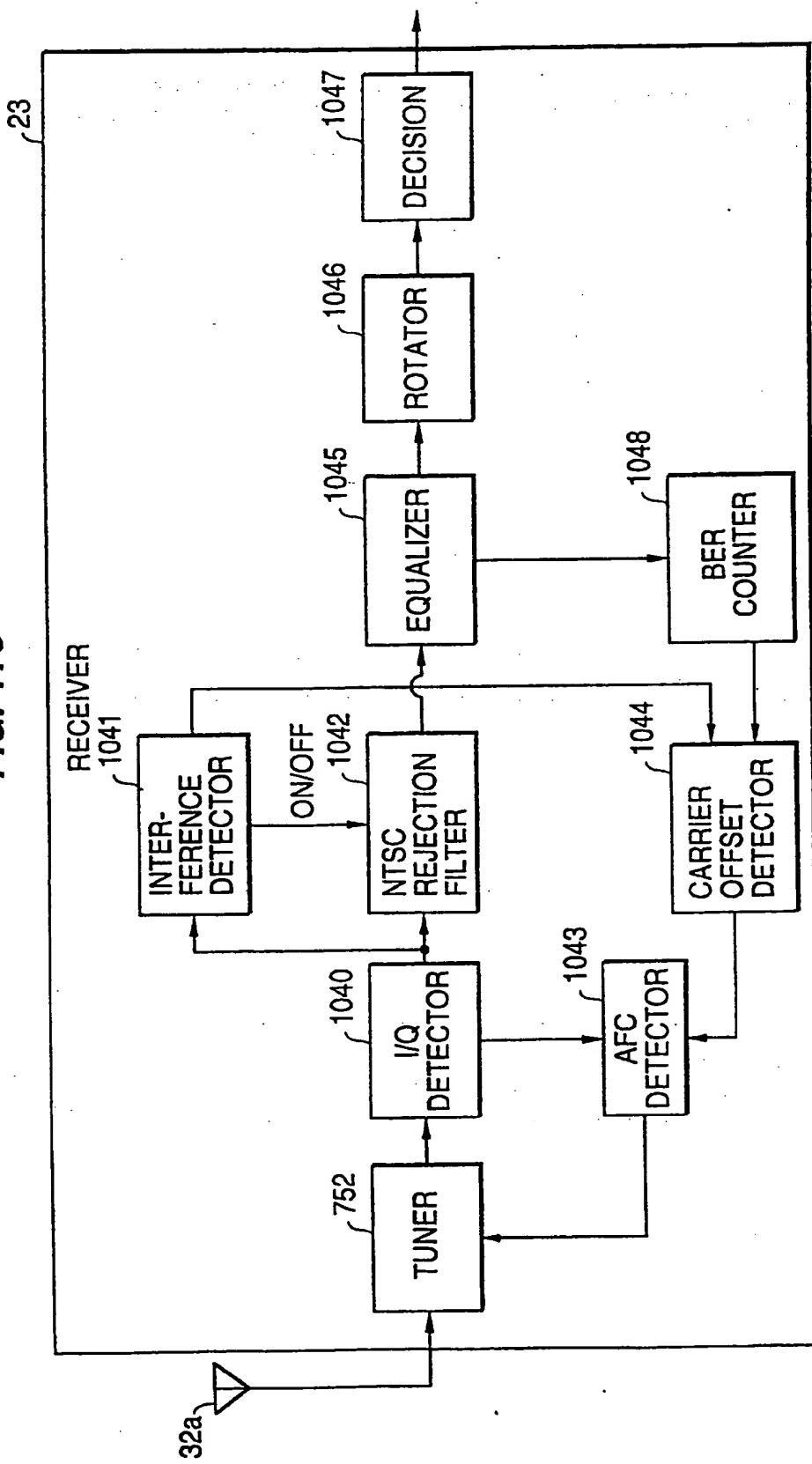


FIG. 179

